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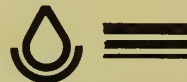
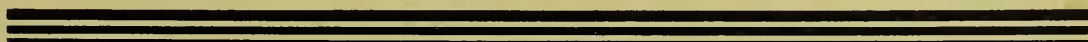
the Luckiamute River Watershed Work Plan and Environmental Impact Statement

POLK COUNTY, OREGON

MAY 1975



Prepared under the authority of the Watershed Protection & Flood Prevention Act (Public Law 566, 83rd. Congress, 68 Stat. 666) as amended; and in accordance with the National Environmental Policies Act of 1969, Section 102 (2)(c) Public Law 91-190.



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Little Luckiamute River Watershed Work Plan

and

Environmental Impact Statement

Polk County, Oregon

Prepared under the Authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83d Congress, 68 Stat. 666), as amended; and in accordance with the National Environmental Policies Act of 1969, Section 102 (2) (c) Public Law 91-190.

Prepared by: Polk Soil and Water Conservation District

Little Luckiamute Improvement District

Polk County

City of Monmouth

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May 1975

COVER PICTURE: *As the Little Luckiamute River flows into Falls City, it plunges over a forty foot high cascade in its flow downstream to the Luckiamute River.*

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AND

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WATERSHED WORK PLAN AGREEMENT

Between the

POLK SOIL AND WATER CONSERVATION DISTRICT

POLK COUNTY

LITTLE LUCKIAMUTE IMPROVEMENT DISTRICT

CITY OF MONMOUTH

(hereinafter referred to as the Sponsoring Local Organizations)

State of Oregon

and the

SOIL CONSERVATION SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

(hereinafter referred to as the Service)

Whereas, application has heretofore been made to the Secretary of Agriculture by the Sponsoring Local Organizations for assistance in preparing a plan for works of improvement for the Little Luckiamute River Watershed, State of Oregon, under the authority of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress; 68 Stat. 666), as amended; and

Whereas, the responsibility for administration of the Watershed Protection and Flood Prevention Act, as amended, has been assigned by the Secretary of Agriculture to the Service; and

Whereas, there has been developed through the cooperative efforts of the Sponsoring Local Organizations and the Service a mutually satisfactory plan for works of improvement for the Little Luckiamute River Watershed, State of Oregon, hereinafter referred to as the watershed work plan, which plan is annexed and made a part of this agreement;

Now, therefore, in view of the foregoing considerations, the Sponsoring Local Organizations and the Secretary of Agriculture, through the Service, hereby agree on the watershed work plan, and further agree that the works of improvement as set forth in said plan can be installed in about six years.

It is mutually agreed that in installing and operating and maintaining the works of improvement substantially in accordance with the terms, conditions, and stipulations provided for in the watershed work plan:

1. The Sponsoring Local Organizations will acquire, with other than PL-566 funds, such land rights as will be needed in connection with the works of improvement. (Estimated cost \$894,580). The percentages of this cost to be borne by the Sponsoring Local Organizations and the Service are as follows:

<u>Works of Improvement</u>	<u>Sponsoring Local Organizations (percent)</u>	<u>Service (percent)</u>	<u>Estimated Land Rights Cost (dollars)</u>
Teal Creek Multiple Purpose Reservoir			
Payment to landowners for about 600 acres	58.33	41.67	335,000
Cost of alteration or modification of improvements*	58.33	41.67	121,000
Legal fees, surveying, and other related costs	100.00	0.00	45,600
Teal Creek Reservoir Recreational Facilities			
Payment to landowners for about 258 acres	50.00	50.00	154,800
Legal fees, surveying, and other related costs	100.00	0.00	15,480
All Other Structural Measures	100.00	0.00	222,700

*Including necessary engineering services, construction, and additional land costs.

The Sponsoring Local Organizations agree that all land acquired or improved with P.L. 566 financial or credit assistance will not be sold or otherwise disposed of for the evaluated life of the project except to a public agency which will continue to maintain and operate the development in accordance with the Operation and Maintenance Agreement.

2. The Sponsoring Local Organizations assure that comparable replacement dwellings will be available for individuals and persons displaced from dwellings, and will provide relocation assistance advisory services and relocation assistance, make the relocation payments to displaced persons, and otherwise comply with the real property acquisition policies contained in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646, 84 Stat. 1894) effective as

of January 2, 1971, and the Regulations issued by the Secretary of Agriculture pursuant thereto. The costs of relocation payments will be shared by the Sponsoring Local Organizations and the Service as follows:

	<u>Sponsoring Local Organization (percent)</u>	<u>Service (percent)</u>	<u>Estimated Relocation Payment Costs (dollars)</u>
Relocation Payments	.40.4	59.6	32,340

3. The Sponsoring Local Organizations will acquire or provide assurance that landowners or water users have acquired such water rights pursuant to State law as may be needed in the installation and operation of works of improvement.
4. The percentages of construction costs of structural measures to be paid by the Sponsoring Local Organizations and by the Service are as follows:

<u>Works of Improvement</u>	<u>Sponsoring Local Organizations (percent)</u>	<u>Service (percent)</u>	<u>Estimated Construction Cost (dollars)</u>
Teal Creek Reservoir	45.61	54.39	4,674,960
Diversion System	7.18	92.82	1,365,560
Irrigation Water Distri- bution System	50.00	50.00	1,214,280
Recreation Facilities			
Maintenance Facility	100.00	0	10,000
All Other Recreation Fac.	50.00	50.00	583,340
Fish Incubators	100.00	0	4,000
Stream Treatment	50.00	50.00	2,000

5. The percentages of the engineering costs to be borne by the Sponsoring Local Organizations and the Service are as follows:

<u>Works of Improvement</u>	<u>Sponsoring Local Organizations (percent)</u>	<u>Service (percent)</u>	<u>Estimated Engineering Costs (dollars)</u>
Teal Creek Reservoir.	10.34	89.66	245,500
Diversion System	3.27	96.73	102,590
Irrigation Water Distribution System	0	100.00	121,430
Recreation Facilities	50.00	50.00	59,330
Fish Incubators	100.00	0	400
Stream Treatment	0	100.00	500

6. The Sponsoring Local Organizations and the Service will each bear the costs of Project Administration which it incurs, estimated to be \$186,300 and \$1,643,800 respectively.
7. The Sponsoring Local Organizations will obtain agreements from owners of not less than 50 percent of the land above each reservoir that they will carry out conservation plans on their land.
8. The Sponsoring Local Organizations will provide assistance to landowners and operators to assure the installation of the land treatment measures shown in the watershed work plan.
9. The Sponsoring Local Organizations will encourage landowners and operators to operate and maintain the land treatment measures for the protection and improvement of the watershed.
10. The Sponsoring Local Organizations will be responsible for the operation and maintenance of all structural works of improvement by actually performing the work or arranging for such work in accordance with the agreements to be entered into prior to issuing invitations to bid for construction work.
11. The costs shown in the agreement represent preliminary estimates. In finally determining the costs to be borne by the parties hereto, the actual costs incurred in the installation of works of improvement will be used.
12. This agreement is not a fund obligating document. Financial and other assistance to be furnished by the Service in carrying out the watershed work plan is contingent on the availability of appropriations for this purpose.

A separate agreement will be entered into between the Service and the Sponsoring Local Organizations before either party initiates work involving funds of the other party. Such agreement will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.

13. The watershed work plan may be amended or revised, and this agreement may be modified or terminated only by mutual agreement of the parties hereto except for cause. The Service may terminate financial and other assistance in whole, or in part, at any time whenever it is determined that the Sponsoring Local Organizations have failed to comply with the conditions of this agreement. The Service shall promptly notify the Sponsoring Local Organizations in writing of the determination and the reasons for the termination, together with the effective date. Payments made to the Sponsoring Local Organizations or recoveries by the Service under projects terminated for cause shall be in accord with the legal rights and liabilities of the parties.
14. No member or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.
15. The program conducted will be in compliance with all requirements respecting nondiscrimination as contained in the Civil Rights Act of 1964 and the regulations of the Secretary of Agriculture (7 C.F.R. 15.1-15.12), which provide that no persons in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any activity receiving Federal financial assistance.
16. This agreement will not become effective until the Service has issued a notification of approval and authorizes assistance.

Polk Soil and Water
Conservation District

Local Organization

430 Walnut St. Dallas TX 97338

Address

Zip Code

By

Hugh C. Muller

Title

Chairman of Board

Date

3-12-75

The signing of this agreement was authorized by a resolution of the governing body of the Polk Soil & Water Conservation District

Local Organization

adopted at a meeting held on

January 6, 1975

Sandy E. Martin
Secretary, Polk Soil and Water
Conservation District

410 Walnut St Dallas TX 97338
Address Zip Code

Date

3/12/75

City of Monmouth
Local Organization

By Richard D. Embury
Title Mayor
Date 3/12/75

151 W. Main 97361
Address Zip Code

The signing of this agreement was authorized by a resolution of the governing body of the City of Monmouth
Local Organization

adopted at a meeting held on 3/12/75

Richard D. Embury
Secretary, City of Monmouth
Date 3/12/75

151 W. Main 97361
Address Zip Code

Little Luckiamute
Improvement District
Local Organization

By Randolph A. Smith
Title President

Address Zip Code

Date 3-12-75

The signing of this agreement was authorized by a resolution of the governing body of the Little Luckiamute Improvement District
Local Organization

adopted at a meeting held on March 4 1975

Leon W. Williams
Secretary, Little Luckiamute
Improvement District
Date 3-12-75

RT 2 Box 22 Monmouth 97361
Address Zip Code

Polk County
Local Organization

By W. B. Whitcomb
Title Chairman, Board of Comm.
Date 3/25/75

Courthouse, Dallas, Ore. 97338
Address Zip Code

The signing of this agreement was authorized by a resolution of the governing body of the Polk County
Local Organization

adopted at a meeting held on March 25, 75

Norma Gross
Secretary, Polk County Comm.

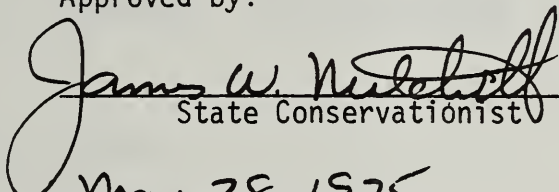
Courthouse, Dallas, Ore. 97338
Address Zip Code

Date Mar. 26, 75

Appropriate and careful consideration has been given to the environmental statement prepared for this project and to the environmental aspects thereof.

Soil Conservation Service
United States Department of Agriculture

Approved by:



State Conservationist

May 28, 1975

Date

Watershed Work Plan

Little Luckiamute River Watershed

Polk County, Oregon

May 1975

SUMMARY OF PLAN

LOCATION

The Little Luckiamute River Watershed is located in Polk County on the west side of the Central Willamette Valley. The City of Falls City is the only municipality located within the watershed.

The watershed includes 52,640 acres in Polk County (82.3 square miles). The watershed is about 18 miles long and 7 miles wide at its extremes. The Little Luckiamute River originates near Fanno Peak in the Coast Range Mountains and generally flows in a southeasterly direction until it joins with the Luckiamute River.

SPONSORSHIP

This plan was prepared by the Polk Soil and Water Conservation District, the Little Luckiamute Improvement District, Polk County, and the City of Monmouth, as sponsoring organizations. Technical assistance was provided by the Soil Conservation Service and Forest Service of the U. S. Department of Agriculture. Other agencies and groups who assisted in the preparation of, or furnished materials for, the watershed work plan include:

-Summary-

<u>Federal</u>	<u>State of Oregon</u>	<u>Local</u>
Farmers Home Administration	State Engineer	City of Falls City
Agricultural Stabilization & Conservation Service	Extension Service	Pacific Power & Light
Geological Survey	Wildlife Commission	Consumer Power
Environmental Protection Agency	Fish Commission	Willamette Basin
Fish & Wildlife Service	Forestry Department	Project Committee
Bureau of Land Management	State Water Resources Board	Mid-Willamette Council of Governments
Corps of Engineers	Highway Division	Regional Park &
National Marine Fisheries Service	Department of Environmental Quality	Recreation Agency of Mid-Willamette Valley

WATERSHED PROBLEMS

The principal resource development problems in this watershed are flooding of cropland, inadequate water supply for irrigation during the middle to latter part of the crop growing season, an increasing demand for water-based recreation facilities which are now nonexistent, and low summer streamflows for fish. There is also a need for a municipal water supply for the adjacent rural area and the City of Monmouth.

PROJECT OBJECTIVES

The objectives of this project are to provide effective land treatment on lands in the watershed, flood protection for agricultural lands along the Little Luckiamute River, adequate full season irrigation water supplies to those lands that lack or have low priority water rights, water-based recreation facilities, improved fishery habitat, municipal and industrial water supply development for the City of Monmouth and the adjacent rural areas, and the preservation, protection and enhancement of the quality of the environment.

LAND TREATMENT

Cost of these land treatment measures is estimated to be \$907,288. The P. L. 566 share, \$76,606, will consist entirely of accelerated technical assistance to landowners and operators. The share borne by other funds is \$830,682, of which \$6,052 is borne by the Soil Conservation Service for technical assistance, \$2,700 by the Forest Service for technical assistance, and \$821,930 by the landowners or operators with assistance as available from the Agricultural Conservation Program or other sources.

STRUCTURAL MEASURES

A multiple-purpose reservoir for flood prevention, irrigation, recreation, fish enhancement, and municipal and industrial water is the principal structural feature of this plan. The Teal Creek Reservoir will have a total storage capacity of 25,000 acre feet, a maximum surface area of 440 acres, and the dam will be 110 feet high.

Other structural measures include a diversion system consisting of a diversion dam and 7,354 feet of diversion canal with a capacity of 1,200 cfs; an irrigation water distribution system consisting of 124,520 feet of pipeline, 18 pumps, and 104 meters; and recreation facilities adjacent to the Teal Creek Reservoir. The diversion system will be used during April and May to help fill the joint use reservoir storage area for irrigation and municipal and industrial water supply, and during the months of October through March to divert flood flows from the Little Luckiamute into the Teal Creek Reservoir during periods of high flows.

The estimated total installation cost for all structural measures is \$11,141,710.

BENEFITS AND COSTS

The estimated average annual benefits of structural measures will be \$1,201,810. Included are benefits for flood prevention, \$121,935; irrigation, \$159,055; recreation, \$398,250; fish enhancement, \$40,140; municipal and industrial water supply, \$61,200; and secondary, \$131,730.

The estimated average annual cost of these measures, including operation, maintenance, and replacement, is \$729,610. The ratio of benefits to costs is 1.6 to 1.0.

COST SHARING - STRUCTURAL MEASURES

Costs for structural works of improvement are allocated to the purposes served by the structure. The allocation is: Flood prevention, \$2,430,865; irrigation, \$2,155,640; municipal and industrial water supply, \$598,725; recreation, \$3,441,270; and fish enhancement, \$685,110.

The total installation costs of \$11,141,710 will be shared with P.L. 566 funds bearing an estimated \$7,106,380 and other funds \$4,035,330.

PROJECT INSTALLATION

The installation of land treatment measures will be the responsibility of the individual landowner or operator with such financial assistance as may be available through the Agriculture Conservation Program or other funds. Technical assistance to landowners will be provided by the Soil Conservation Service and the State Forestry Department in cooperation with the Polk Soil and Water Conservation District.

Responsibility for installation of Teal Creek Reservoir, the irrigation distribution system, and the diversion system rests with the Little Luckiamute Water Control District. Recreation facilities will be installed by Polk County.

Project measures are scheduled for installation during a six year period.

OPERATION, MAINTENANCE AND REPLACEMENT

Land treatment measures on private land will be operated and maintained by the landowners or operators of the land.

Operation, maintenance, and replacement of the recreation facility will be the responsibility of Polk County. Operation, maintenance, and replacement of all other structural measures will be the responsibility of the Little Luckiamute Water Control District.

Estimated average annual operation, maintenance, and replacement cost is \$127,510.

INTRODUCTION

Little Luckiamute River Watershed

Work Plan

and

Environmental Impact Statement

This work plan is prepared under the authorities of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress) by the Polk Soil and Water Conservation District, Little Luckiamute Improvement District, Polk County, and the City of Monmouth. Technical assistance was provided by the Soil Conservation Service and the Forest Service of the U. S. Department of Agriculture.

The Little Luckiamute River Watershed, with a drainage area of 52,640 acres (82.3 square miles) is located in central Polk County, in northwestern Oregon, on the western side of the Willamette River. The City of Falls City is located within the watershed; the City of Dallas is within 2 miles of the northern boundary; the City of Monmouth is about 4 miles to the east; and Salem, the State Capitol, is about 15 miles to the east.

The Part I (work plan) section of this report has been briefed to avoid excessive duplication with information required to be included in the Part II (the Environmental Impact Statement) section. Part II should be reviewed for additional information on area description, environmental setting, resource problems, planned project, environmental impacts, alternatives and plan review.

PROJECT FORMULATION

PROJECT OBJECTIVES

The project formulated for the Little Luckiamute River Watershed will as nearly as possible meet the objectives desired by the local sponsors which can be included within the framework of Public Law 566. The land treatment and structural measures selected for inclusion in this work plan are those that meet the project objectives at the lowest annual cost.

The objectives to be met by this project have been agreed to by both the sponsors and the Service as being adequate to provide the level of protection or development desired for each project purpose.

Project measures are planned to provide conditions for more intensive and diversified land use and to assist in the development and stabilization of the economy of the area. The land treatment and project measures are also planned for the protection, preservation, and enhancement of the environment of the area.

Consideration was given to all other water resource plans existing or being planned for this watershed and the adjacent areas to assure that elements of this plan will be compatible with full development of the entire region.

The objectives of the project are to provide, through a multiple-purpose project development, a combination of land stabilization, flood prevention, recreation, fish and wildlife, municipal and industrial water supply, and irrigation benefits.

The fire protection objectives are to minimize the potential that exists as much as possible. Steps to be taken are preseason fire prevention planning, the use and availability of modern equipment and the placement of high use recreation areas away from hazardous locations.

The flood prevention measures are to achieve the objectives of providing the maximum justifiable level of flood protection along the Little Luckiamute River floodplain not affected by backwater from the Luckiamute River. The peak flows are to be significantly reduced, the duration of flooding is to be reduced on 2,740 acres, and the average annual floodplain inundated is to be reduced 1,140 acres or by 67 percent. In addition, the Little Luckiamute is to be maintained free

-Project Formulation-

of log jams, thus providing conditions for quick and orderly removal of excess runoff. Also, the fairly erodible channel banks are not to be disturbed, and the natural beauty and aesthetic value of the stream channel will be preserved. The fish and wildlife habitat of the Little Luckiamute River is also to be conserved.

The recreation objectives are to provide high quality, water-based recreational areas, including installation of high intensity recreational developments to help meet a rapidly increasing recreational demand. Recreational measures will be included to assist in meeting regional needs to the extent that facilities can be installed and operated compatibly with the other project purposes.

Objectives for development for municipal and industrial water supplies are to provide high quality supplemental water to help meet the immediate water supply needs for the City of Monmouth and the long term water needs of the watershed and adjacent areas in Polk County. Monmouth's objective is for storage of 1,000 acre feet, and Polk County's objective is for storage of 2,875 acre feet.

Project irrigation objectives are to provide an adequate full season water supply, with a minimum reliability of meeting full season requirements 8 out of 10 years, for approximately 4,100 acres of cropland nearly all of which is now producing dryland crops.

Project fish and wildlife objectives are to enhance the fish resources of the watershed and salmon and steelhead fishery of the Willamette and Columbia Rivers to the extent facilities included can be installed and operated compatibly with the other project purposes.

FORMULATION PROCEDURES

Determination of Needs

Inventories were made by sponsoring local organizations with assistance of the Service to determine the needs for each of the project purposes.

Flood damage surveys were conducted with individual landowners to determine the extent of present damages. Land use projections by county and regional planning commissions and by the sponsors were used to determine the level of future agricultural production and the degree of flood protection that would be necessary for these projections.

Recreational needs were determined by the Regional Park and Recreation Agency of the Mid-Willamette Valley. Material on recreational needs for this area was taken from planning commission and other agency reports covering recent surveys in this area. Meetings were held with representatives of local, State, and Federal recreation agencies to

-Project Formulation-

determine the nature and scope of recreation needs which could be met by this project. Inventories were also made of existing nearby recreation facilities to obtain a projection of expected recreational use.

The City of Monmouth and Polk County have inventoried their present and future needs for water supplies and by letter indicated their interest in obtaining project water. The City of Monmouth and Polk County have strongly supported their interest in municipal and industrial water supply at public meetings and in releases to the press.

The watershed area and much of Polk County is lacking in groundwater for development for water supply purposes. This is characteristic and typical of most areas in the Coast Range. Polk County recognizes the need for developing sources of water supply for future development. They are very much interested in providing guidance in the future growth of the county.

The inventory of irrigation needs was accomplished by an interest sign-up of landowners. The acreage planned for project water delivery was signed up for project irrigation water supplies with a financial contribution to the Water Control District in proportion to the acreage signed. The acreage to be served includes most of the irrigable land in the watershed that does not have a high priority water right or on which a water right is lacking. The irrigation sign-up included the crops to be grown and the location of land to be irrigated. This acreage was carefully reviewed by the Water Control District Board, and additional areas were included which they felt strongly would be needing irrigation water from the project. The necessary reliability was determined by establishing the requirements to support the crops to be grown with reasonable adjustment to crop acreages in dry years.

Fish and wildlife mitigation and enhancement needs were determined through consultation with the Oregon Wildlife Commission, Fish Commission of Oregon, National Marine Fisheries Service, and the Fish and Wildlife Service.

Federal land administered by the Bureau of Land Management has good cover conditions and is well stocked with 20 to 30 year old coniferous reproduction. The Bureau of Land Management has reviewed their management plan for those areas in the Teal Creek drainage basin and 260 acres will be harvested beginning in 1972. For those lands in the Little Luckiamute drainage area above Falls City, thinning operations are planned to begin in 10 to 20 years.



Irrigated pasture is projected to be a major land use. SCS PHOTO 7-2864-4

Selection of Measures

Land treatment measures were given the first consideration in obtaining the project objectives. Wherever the problems cannot be solved feasibly by land treatment, structural measures were considered to accomplish the desired goal. Land treatment practices to be included were determined from technical guides developed for treatment of each soil group and land use.

Although the incidence of fires has been very low in the past, the potential exists. Fuel concentration, high fire danger, and a large influx of people could combine into a serious fire; but with the advent of modern fire suppression techniques and equipment, proper location of roads and fire breaks, and placement of high use recreation areas away from hazardous locations should greatly lessen any potential danger. Preseason fire prevention planning, coupled with extra ground and aerial patrol on days when fire index ratings and wind conditions indicate a potential hazard, should further lessen the danger.

Structural measures in this plan were selected on the basis of the most effective and economic combination to accomplish the project objectives. Several alternative combinations of measures, evaluation units, and levels of protection were investigated during planning.

-Project Formulation-

The final determination on the combination of measures to be included in the plan was made by the sponsors with the agreement of the Service. Capacity for flood prevention in single purpose and multiple purpose reservoirs was considered as the first structural measure alternative to meet the flood prevention objectives. Wherever the flood prevention capacity became too costly other structural measures were considered.

One of the sponsors' objectives is to maintain the Little Luckiamute free from log jams and debris deposition and to not disturb the channel banks, if at all possible. Several of the landowners along the Little Luckiamute have experienced the losses of farmland due to the erodibility of soils on the channel banks during high flows.

Due to the large volumes of excess runoff experienced annually, the erodibility of the soils on the channel banks, and the high velocities that are experienced, any channel improvements were determined to be not feasible both physically and economically.

Investigations of alternate sites were made to establish the most feasible location of reservoirs. Consideration was given to locating a damsite below Grant Creek on Teal Creek. This site was eliminated as the sponsors wanted to preserve the Grant Creek area for future development. Also the Grant Creek drainage area is small and would have a relatively minor effect in reducing flood flows. Consideration was also given to locating a reservoir site further upstream on Teal Creek. This location had a much less desirable storage basin and the level of project development desired could not be attained. The site selected was found to be the most physically feasible and least costly to provide the capacity needed.

A floodwater detention structure was considered on the Little Luckiamute River above Falls City. This site has major structural problems due to the potential slides above the reservoir area along with excessive costs. Consideration was then given to a diversion system to divert flood flows from the Little Luckiamute River, about 1000 feet upstream from Falls City, into the Teal Creek Reservoir. This alternative was found to be the most feasible in meeting the flood prevention objectives.

The reliability and predictability of the annual runoff, the occurrence of the flood season (October through March) and storage requirements for the various purposes permitted the consideration of the joint use of the flood storage area in the Teal Creek Reservoir. The operation of the diversion system and Teal Creek Reservoir for filling during the spring months (March, April, and May) in no way detracts from the flood prevention feature of the project, but actually enhances the overall project.

-Project Formulation-

A water sample was taken from Teal Creek at the location where the City of Monmouth and Falls City get their municipal water, by the Oregon State Department of Environmental Quality. (The results of this sample are shown in Appendix D of Part II.) The test shows Teal Creek water to be of high quality for recreation, irrigation, fish and wildlife, and municipal and industrial water supply.

In determining the level of development for recreation, consideration was given to minimizing reservoir drawdown, the need for inundating soils having less desirable characteristics for recreational development, enhancement of access to the development, and maintenance of the esthetics and environmental values of the site. To evaluate these, the Regional Park and Recreation Agency of the Mid-Willamette Valley prepared a recreational plan for the Teal Creek Reservoir. A number of meetings between the Recreation Agency, the sponsors, the Soil Conservation Service, and the Extension Service was held to discuss the recreation proposal. Three different storage levels in the Teal Creek Reservoir were considered, and the impact of each on the recreation proposal was analyzed. Based on these meetings and subsequent public meetings, the sponsors and the Service agreed that full development of the Teal Creek Reservoir, within the confines of P.L. 566, was desirable and essential to meet the objectives and needs of the watershed and of Polk County.

The level of recreation development planned will provide for a design capacity of 2,640 (number of people at one time on a Sunday during normal heavy use season). At design capacity, the projected use by major activities is as follows:

<u>Recreation Activity</u>	<u>Number of People</u>
Picnicking	1680
Swimming	250
Boating and water skiing	200
Camping	120
Nature walks and hiking	200
All other activities	190
Total	2640

In determining the level of development for fishery purposes the sponsors and the Service worked closely with Oregon State Game Commission, the Fish Commission of Oregon, the National Marine Fisheries Service, and the Bureau of Sports Fisheries and Wildlife to determine if mitigative measures for anadromous fish would be needed and if there were fishery enhancement potentials. Based on a field review and the stocking program of the streams in the watershed for the next ten years, it was determined that mitigative measures would be needed. The location of the reservoir, the spawning areas that would be covered, and the proximity to the Oregon State Game Commission offices and Fish Commission hatcheries indicated that a trap and haul facility would be the most desirable. The rearing of fingerling salmon in the

-Project Formulation-

Teal Creek Reservoir was also examined, and it was determined that it would be highly desirable and beneficial. These fishery agencies then provided estimates of the benefits that would accrue from this operation from sports fishing and commercial fishing. These benefits are wide spread and are not only within the watershed but also along the Willamette and Columbia Rivers as far downstream as Astoria, the outlet of the Columbia and the Pacific Ocean.

The reservoir has 3,000 acre feet of permanent storage allocated to anadromous fish enhancement, but the entire permanent pool proposed for Teal Creek Reservoir is needed to rear the young salmon.

The delivery of water for irrigation will all be accomplished through a buried, pressurized pipeline system with an appropriate regulating reservoir and necessary pumps. An alternative of releasing water from storage down the existing stream system was considered. This alternative, however, required more storage, required higher maintenance costs, was far more difficult to manage, and would have higher average annual costs. Application of irrigation water is to be with sprinkler systems in order to allow the highest efficiency possible and make the maximum use of the storage provided.

The Little Luckiamute River Watershed is one of 26 small watershed projects that are included in the early action plan of the Willamette Basin Comprehensive Study, which is nearing completion. The highlighting of this project in the basin study was instrumental in bringing it to the forefront for development of a work plan at an early date.

In the basin study future demands have been projected by purposes for the years of 1980, 2000, and 2020. The proposed plan will meet a portion of these future demands. To illustrate the relationship of the basin with the watershed project, the basin study 1980 projections for future demands **by purpose** are compared to the needs met by the watershed project. These comparisons are as follows:

1. The projected lands to be irrigated in the basin are 430,000 acres, and the project will serve 4,100 of these acres.
2. The projected demands in the basin for fall Chinook salmon for commercial fish are 7,208,000 pounds, and angler-days of sport fishing are 707,000. The project will provide an estimated 31,500 pounds of commercial fish and 3,750 angler-days of sport fishing.
3. The projected demands in the basin for municipal, industrial, and rural-domestic average water use are 614.8 million gallons per day (MGD) or 688,670 acre feet. The project will provide a storage of 3,875 acre feet.

-Project Formulation-

4. The projected flood storage requirements to provide effective control of the 100-year flood on the Willamette River at Willamette Falls are for new storage of 1,850,000 acre feet. The project provides for the flood storage of 8,800 acre feet.
5. The projected recreation facility needs in the basin for water-related activities are 9,283,000 recreation-days. The project recreation facilities will provide an estimated 210,000 visitor days.

PLANNED MEASURES

LAND TREATMENT MEASURES

Land treatment costs listed in Table 1 are for those measures needed to provide watershed protection, land improvements, and the level of agricultural water management necessary to obtain total project benefits. All project land treatment will be installed on non-Federal land.

Measures to be installed on cropland include practices to provide efficient distribution and application of irrigation water and the orderly removal of excess water.

Land treatment measures to be installed on forest land include measures to provide protective vegetative cover and to improve the productive capacity of these lands. Practices such as tree plantings, and cultural practices to maintain these plantings, will be installed on land where logging, construction, fires, or excessive grazing have depleted ground cover. Accelerated fire protection will be implemented where increased hazard is expected.

STRUCTURAL MEASURES

A multiple-purpose reservoir for flood prevention, irrigation, recreation, fishery enhancement, and municipal-industrial water is the principal structural feature of this plan. The Teal Creek Reservoir will have a total storage capacity of 25,000 acre feet, a maximum surface area of 440 acres, and the dam will be 110 feet high.

Other structural measures include a diversion system with a diversion dam and 7,354 feet of diversion canal; an irrigation water distribution system with 124,520 feet of pipeline, 18 pumps, and 104 meters; and recreational facilities adjacent to the Teal Creek Reservoir.



WORK PLAN
PROJECT MAP
 LITTLE LUCKIAMUTE RIVER WATERSHED
 POLK COUNTY, OREGON
 PRELIMINARY PLANS
 U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
 Prepared by W.S.N. Date 6/7/70 Drawn by M7-N-21499



EXPLANATION OF INSTALLATION COSTS

ESTIMATED COSTS

LAND TREATMENT MEASURES

Installation costs shown in Table 1 for land treatment measures include costs for establishing the measures and for associated technical assistance for planning and applying the measures. Technical assistance included for land treatment measures to be installed on cropland and grassland includes soil surveys, conservation planning, and supervision of practice application.

Included in costs of land treatment are \$826,930 for application and \$80,358 for technical assistance in planning and applying these measures. Technical assistance includes \$8,752 from going program funds (\$6,052 from the Service and \$2,700 from the Forest Service), and \$71,606 from P. L. 566 funds (\$67,406 from the Service and \$4,200 from the Forest Service) to assist in accelerating the rate of land treatment installation and fire protection.

STRUCTURAL MEASURES

Construction

Construction costs include the contract or force account cost for installing structural measures including the following items:

1. Site preparation.
2. Removal of all improvements which will be abandoned.
3. Flagmen and other protective devices such as barriers or lights required to protect workmen or the public during construction.
4. The cost of excavation and installation of a closed conduit crossing a road or street when it is an integral part of an overall closed conduit system. Included are approximately 10 crossings of public and private roads by project pipelines.

-Explanation of Installation Costs-

5. Catwalks, handrails, fences, and other safety measures needed at Teal Creek Reservoir and at the pumping plants for the proper function, operator safety, and for the safety of the public using the recreational development at the Teal Creek Reservoir.
6. Provisions for fire prevention or suppression necessary during project construction activities.
7. Disposal of waste materials in accordance with sound engineering design and construction principles including placing, smoothing, and revegetating excess excavated materials. Included are disposal of strippings from borrow areas or from structure foundations, debris removal from right of ways, and material in excess of backfill needs for pipelines.

The estimated construction costs include a contingency allowance varying from 10 to 30 percent depending upon the possibility of unforeseen construction costs. The larger contingencies were included where subsurface conditions cannot be fully determined until more intensive investigations have been conducted for final design. The average contingency for all construction items is 20 percent.

The total estimated construction cost is \$7,854,140.

Engineering Services

Engineering services include the direct costs of engineers and other technicians (includes amounts paid under contracts to private A&E firms) for surveys, investigations, design, and the preparation of plans and specifications for structural measures including the associated vegetative work; but does not include engineering services needed in connection with the alteration, relocation, or modification of utilities or services connected with land rights acquisition. Estimated total cost of engineering services is \$529,750, which includes \$7,550 for core drilling, grout testing, and soil tests on the Teal Creek Dam.

Project Administration

Project administration costs include administrative costs associated with the installation of structural measures. Costs included for construction contract administration are \$40,270. Other project administration cost items include costs for negotiating and administering architectural or engineering services contracts, review of engineering plans prepared by others, construction layout, inspections services during construction, and administrative costs of

-Explanation of Installation Costs-

Government representatives. The cost for relocation assistance advisory services (\$3,600) is also included as part of project administration costs. This service will be provided by Polk County. This service will provide written notice of displacement and appropriate application forms to each displaced person, business, or farm operation. They will assist in filing applications, review and take action on applications for relocation assistance, review and process grievances, and make relocation payments. (Estimated total project administration cost is \$1,830,100.)

Land Rights

The cost of land rights includes the costs for:

1. All expenditures made in acquiring land, easements, leases, and rights-of-way or their value as estimated by the local organization with the concurrence of the Service. Included are such items as the cost of subordination agreements, the cost of complying with special provisions not necessary for the proper construction, operation, or maintenance of works of improvement, and construction and engineering services directly associated with acquisition of land rights.
2. Changes of existing telephone, power, gas, water lines, or other utilities. The principal item will be the relocation of the Monmouth and Falls City water lines.
3. All relocations and changes of highways and roads that are to remain serviceable after project installation including necessary engineering. Relocation cost for the road from Falls City to Camp Kilowan will be limited to the cost to provide access equal to present conditions.
4. Relocation or reconstruction of new fences or guardrails for the protection and safety of the public, except when such measures are necessary for the protection and safety of the public using the recreation developments at the Teal Creek Reservoir site. (Cost of fences and guardrails associated with these developments includes protection around control structures, spillways, and pump houses and are classified as construction costs.)

The total land rights cost is estimated to be \$894,580.

Relocation Assistance

The costs for relocation payments (\$32,340) will be shared by the Service and the Sponsors. The cost-sharing percentages are based on the ratio of P.L. 566 funds and other funds to the total project costs.

Water Rights

The cost of water rights includes the examination, recording, and storage fees required by the State Engineer of Oregon. Costs are included to cover the expense of preparing the necessary maps and surveys. The estimated water rights cost is \$800.

-Explanation of Installation Costs-

COST ALLOCATION

All structural measures costs, except for project administration, are allocated to the purposes served. The method used for each measure will provide that each purpose shall share equitably in any resulting savings accomplished by inclusion of more than one purpose in a structure. See Table 2A for a summary of cost allocation. The methods used for cost allocation are as follows:

Teal Creek Reservoir

Construction, engineering services, relocation payments, and water rights are allocated by the "Use of Facilities" method as follows: 19.12 percent to flood prevention, 12.43 percent to irrigation, 46.11 percent to recreation, 12.00 percent to fish and wildlife, and 10.34 percent to municipal-industrial water supply.

Cost of land rights are allocated to recreation, irrigation, fish and wildlife, and municipal-industrial water supply. The allocations to the combined storage purposes (irrigation and municipal-industrial water) were made in proportion to the increment of water surface area added for these purposes in relation to the total area required for the dam and reservoir and this allocation then divided to each purpose according to the required capacity for each. The balance is allocated to fish and wildlife and recreation. Total land rights costs are allocated as follows: 66.13 percent to recreation, 10.27 percent to irrigation, 17.20 percent to fish and wildlife, and 6.40 percent to municipal-industrial water supply.

Irrigation Water Distribution System

All costs are allocated to irrigation.

Diversion System

Costs are allocated to flood prevention, irrigation, and municipal-industrial water supply in proportion to the peak design capacity required for each purpose. 88.89 percent will be allocated to flood prevention, 7.85 percent to irrigation, and 3.26 percent to municipal-industrial water supply.

COST SHARING

Installation costs will be shared by local sponsoring organizations and the Federal government in accordance with requirements of Public Law 566, as amended, and the Secretary's policy statement.

-Explanation of Installation Costs-

LAND TREATMENT MEASURES

Costs for installation of land treatment will be borne by the individual landowners with such assistance as may be available from the Agricultural Conservation Program or other sources of funds.

The costs of technical assistance necessary for the installation of land treatment measures will be borne by going program funds of the Service, the Forest Service, and the State Forestry Department at the rate now being expended for these programs. The costs of accelerated technical assistance above the level of going program funds will be paid from P. L. 566 funds.

STRUCTURAL MEASURES

Costs will be shared as follows:

<u>Cost Item and Purpose</u>	<u>P. L. 566 Funds</u> %	<u>Other Funds</u> %
<u>Construction</u>		
Flood Prevention	100	0
Recreation & Fish & Wildlife	50	50
Municipal-Industrial Water	0	100
Irrigation	50	50
<u>Engineering Services</u>		
Flood Prevention	100	0
Recreation & Fish & Wildlife		
Reservoir	100	0
Recreation Facilities	50	50
Municipal-Industrial Water	0	100
Irrigation	100	0
<u>Land Rights</u>		
Recreation & Fish & Wildlife		
Land Acquisition	50	50
Relocation of Improvements	50	50
Legal fees, surveys & other related costs	0	100
All other purposes	0	100
<u>Water Rights</u>		
All Purposes	0	100
<u>Relocation Assistance</u>		
All Purposes	59.6	40.4

-Explanation of Installation Costs-

Using the above percentages, the costs of individual structural measures will be shared by P.L. 566 funds and other funds as follows:

<u>Item</u>	<u>P.L.566</u> %	<u>Other</u> %	<u>Estimated Cost</u> %
<u>Construction</u>			
Teal Creek Reservoir	54.39	45.61	4,674,960
Diversion System	92.82	7.18	1,365,560
Irrigation Water Distribution System	50.00	50.00	1,214,280
Recreation Facilities			
1.Maintenance Facility	0	100.00	10,000
2.All Other Rec. Fac.	50.00	50.00	583,000
Fish Incubators	0	100.00	4,000
Stream Treatment	50.00	50.00	2,000
<u>Engineering Services</u>			
Teal Creek Reservoir	89.68	10.34	245,500
Diversion System	96.73	3.27	102,590
Irrigation Water Distribution System	100.00	0	121,430
Recreation Facilities	50.00	50.00	59,330
Fish Incubators	0	100.00	400
Stream Treatment	100.00	0	500
<u>Water Rights (All)</u>	0	100.00	800
<u>Land Rights</u>			
Teal Creek Reservoir			
Payment to landowners for about 600 acres	41.67	58.33	335,000
Cost of relocation or modification of improvements	41.67	58.33	121,000
Legal fees, surveying and related costs	0	100.00	45,600
Recreation Facilities			
Payment to landowners for about 258 acres	50.00	50.00	154,800
Legal fees, surveys, and other administrative costs	0	100.00	15,480
All other measures	0	100.00	222,700
<u>Relocation Assistance (All)</u>	59.60	40.40	32,340

See Table 2A for a summary of cost sharing by purposes for structural measures.

-Explanation of Installation Costs-

Project Administration costs are assigned to the Sponsors and the Service as follows:

Sponsors will bear all costs for local organization administrative cost for contract administration (including all legal fees), and will bear the following percentages of construction surveys and inspection costs: for Teal Creek Reservoir 10.34, Diversion System 3.27, and Irrigation Water Distribution System 0.00.

The Service will bear with P. L. 566 funds the remaining costs for contract administration, construction surveys, and inspections and 100% of Government representatives and miscellaneous administrative costs.

ESTIMATED OBLIGATION OF FUNDS - BY YEARS

<u>Fiscal Year</u>	<u>P. L. 566 Funds</u>		<u>Other Funds</u>	
	<u>Land Treatment</u>	<u>Structural</u>	<u>Land Treatment</u>	<u>Structural</u>
1	\$ 6,400	\$ 528,610	\$ 31,900	\$ 363,700
2	9,400	3,278,000	90,700	2,423,300
3	19,400	1,341,180	175,500	766,440
4	20,150	1,847,750	223,300	471,680
5	10,400	110,840	223,300	10,210
6	<u>10,856</u>	<u>--</u>	<u>85,982</u>	<u>--</u>
TOTAL	\$76,606	\$7,106,380	\$830,682	\$4,035,330

EFFECTS OF WORKS OF IMPROVEMENT

The installation of the land treatment and project measures will have a major impact on the development and economy of the watershed, on Falls City, on the City of Monmouth, on the City of Dallas, and on Polk County.

Flood damages will be reduced by 54 percent and farm income will be improved and stabilized by the more diversified crop production. There will be a significant impact on business activity in the community, both as a result of a general increase in farm income and through the increased opportunities made possible by the additional water supplies. The recreation developments will both increase the economic activity and assist in providing an attractive place to live.

In addition to the increased development and productivity, the land treatment measures and works of improvement will also conserve, protect, and enhance the environment of the area. These measures will reduce the rates of runoff and of soil loss, thus preserving the land for production. It will provide for an improvement in the water quality of the streams by reducing the amount of sediment that enters the stream system of the watershed, and it will enhance the beauty of forest lands so that people will not be deprived of a suitable stream-side environment for recreational use.

LAND TREATMENT MEASURES

Land treatment measures will provide continuing watershed protection on the upper watershed. Practices on cropland areas will provide a foundation for efficient and economic use of the irrigation water supplies and will improve the productivity of the land and decrease the cost of operation.

The application of the land treatment practices is essential for the benefits of the structural measures to be fully realized and for the protection and preservation of the environment.

The cover conditions of the upland and foothill areas are in an excellent hydrologic condition. Most of the project land treatment measures are in the cropland areas, a small percentage of the total watershed, thus the benefits to flood prevention are negligible.

STRUCTURAL MEASURES

FLOOD PREVENTION

The structural measures for flood prevention will eliminate 54 percent of the floodwater damages on the Little Luckiamute River. The Teal Creek Reservoir, diversion system, and keeping Little Luckiamute free of log jams will provide protection from the storm that occurs on the average of about once in 10 years in those areas close to the structural measures to about once in 2 years in those areas not effected by backwater from the Luckiamute River as minimum levels of flood protection. The average annual acres flooded, effected by the works of improvement, will be reduced from 1,657 to 516 acres. Also, the area that is flooded on the average of once in 3 years will be reduced from 1,985 to 632 acres, a reduction of 68 percent. Depth and duration, primary damage factors, of flooding will be reduced on 2,740 acres.

Most of the irrigated cropland will be situated outside of the flood-prone area. However, less frequently flooded portions of the flood plain will be used for irrigated cropland where the crop being grown is seasonally compatible with the occurrence of brief flooding. These crops would include irrigated pasture, sweet corn and bush beans and other summer grown annuals.

Backwater from the Luckiamute River limits the project benefits in the lower reaches of the Little Luckiamute flood plain. However, the reservoir and diversion system will reduce the flood flows on the Luckiamute River at Suver by about 3,500 cfs for the 100-year flood and about 2,600 cfs for the 10-year flood.

Damage and debris removal cost will be significantly reduced on seven bridges in the watershed. Future cost for replacement of road bridges will be substantially reduced because of the decreased flood hazard and the resulting smaller required capacities.

Teal Creek Reservoir will have a storage of 381 acre-feet for sediment. Downstream deposition will be reduced and water quality improved. Flood cleanup costs will be significantly reduced.

Project flood prevention will encourage more intensive cropland use of 959 acres on the floodplain.

IRRIGATION

Project measures will provide the irrigation water supply and a distribution pump and pipeline system to serve 4,100 acres with a reliability of at least 80 percent, or 8 out of 10 years. Project measures are based on the assumption that the water supply will not be sufficient to meet the full irrigation water requirement in all years. During these years, which will occur to some degree less often than 1 year in 5, the operating district will provide less water than required to fully meet the irrigation needs of the 4,100 acres. Individual farm operators will adjust their use of this water within their cropping systems. The nature of the crops to be grown and timing of planting dates will help permit this variation in supply without major damage to crops or serious reduction in income.

Nearly all of the acreage served will be converted from dryland crops, mostly grain and pasture, to a combination of higher value crops including irrigated pasture, specialty seed crops, vegetables, strawberries, and mint.



Areas now dryland farmed will be converted to irrigated crops. SCS PHOTO

Water quality tests of project water supplies show that the water will be of high quality for irrigation use.

M U N I C I P A L A N D I N D U S T R I A L W A T E R

Municipal and industrial water supplies will be stored in the Teal Creek Reservoir. This water will be used to supplement existing water supplies for the City of Monmouth, the Luckiamute Domestic Water Association service area, and to meet the projected needs of other areas in Polk County.

Approximately 35,000 people could be provided their full water needs from this source if it were used exclusively for residential use. The 3,875 acre-feet of municipal-industrial water supply (2,584 joint use and 1,291 single purpose) will have nearly a 100 percent reliability. from the yield of the Teal Creek and Little Luckiamute drainage areas.

R E C R E A T I O N

The recreation facilities on Teal Creek Reservoir will help satisfy a pressing need for public recreation in Polk County and the surrounding area. At present over 98 percent of the recreation land in this area is privately owned. The development is within easy driving distance of most of the heavily populated areas of Oregon.

A broad spectrum of recreational activities, including both day use and overnight camping is planned. These activities will be spread around most of the shoreline of the reservoir and the adjacent land. Facilities for picnicking, swimming, boating, fishing, athletics, group functions with opportunity for complementary concession outlets for food, boats, and equipment. Trailer and camping facilities and hiking trails will also be provided. Although the planned seasonal operation of the facilities calls for heavy use from May through September, there will be nominal use during the fall and spring months and open winters will permit some year around use of the area.

These facilities will have an expected visitor day use of 210,000 annually, with a peak day use of approximately 6,600. It is anticipated that in the future additional facilities will be constructed to accomodate future additional recreation demand.

-Effects-

These facilities will provide a healthful and attractive recreational environment for the local people and visitors and will increase the economic well being of Falls City, Dallas, and other nearby communities. Although all ages will benefit, the youth of the area in particular will derive physical, social and cultural benefits from these facilities.

The opportunity for associated private recreation opportunities will be enhanced and nearby communities, such as Falls City, will receive a substantial economic boost as a result of the recreation use of Teal Creek Reservoir. Opportunities will improve for sales of goods and services and for sales or rental of vacation home sites, and over-nite facilities.

Water quality tests show that the water is of high quality for recreational use.

F I S H A N D W I L D L I F E

The Teal Creek Dam will block anadromous fish passage up Teal Creek and will inundate approximately 2 miles of spawning area. To mitigate for this, coho salmon and steelhead will be passed over the dam by trap and haul and outlets will be designed to allow the young fish to migrate downstream out of the reservoir.

A resident trout fishery will be provided in the reservoir and will be managed by the Oregon State Wildlife Commission. The Fish Commission of Oregon will manage the reservoir for rearing young Chinook salmon to migrating size and thereby enhance the run of these fish for the widespread benefit of downstream sport and commercial fisheries.

Some upland and small game habitat will be lost in the reservoir area. Habitat improvement and preservation measures will be encouraged to compensate for their loss. An example is the installation of wood duck nest boxes at suitable locations around the reservoir. Any unused project lands should be developed for permanent food and cover for wildlife.

The reservoir area is expected to provide a resting area for waterfowl wintering in the area. The exact effects of changes in cropping patterns on wildlife as a result of project irrigation water is unknown. Conservation planning will include measures for encouraging wildlife in the project area.

The 637 acres which will be lost to the reservoir and diversion includes about 445 acres of dry cropland, 180 acres of unimproved grassland and 12 acres of stream and associated riparian vegetation. The 258 acres of land which will become recreational land consists of about 180 acres of forest land and 78 acres of unimproved grassland.

Changes on project lands, with the project, include conversion of 4,100 acres of dry cropland to irrigated forage crops and row crops. The 1,500 acres of presently irrigated land will continue in this use. A reduction of the frequency and duration of flooding will be accomplished on 2,940 acres; however, riparian vegetation and habitat are expected to remain essentially unchanged. There will be an estimated loss of 780 acres of native grass and shrubby cover, such as wild rose, hawthorne, and willow, which will be cleared around cropland fields incidental to flood prevention and irrigation development.

I N C I D E N T A L E F F E C T S

The reservoir will provide an additional water supply for fire protection. The project's regulating effect on the streamflow will reduce ponding on overflow areas, and will contribute to a reduction in the number of mosquitoes.

The diversion from Little Luckiamute River may pass many of the migrating anadromous fish smolts through the Teal Creek Reservoir. These fish are the result of surplus mature fish stocked above the falls on the Little Luckiamute River where they spawn.

The displacements brought about by construction of Teal Creek Reservoir and recreation facilities will not have any significant detrimental effects on the economy or environment of this area.

Low flows of the Little Luckiamute River and Teal Creek are fully appropriated by holders of prior water rights and to meet minimum flow requirements designated for these streams. This project will pass these flows through the diversion dam and the reservoir without effect; except that releases from the reservoir will be through the outlet at the bottom of the dam which will permit release of cool water in Teal Creek to improve the fishery habitat for both resident and anadromous fish.

PROJECT BENEFITS

PRIMARY BENEFITS

LAND TREATMENT MEASURES

Benefits from land treatment measures will be primarily on-site conservation benefits accruing from more efficient management of land and water. No monetary evaluation was made for these measures.

STRUCTURAL MEASURES

Flood Prevention

The primary flood damage reduction benefits resulting from the installation of project measures include \$38,610 direct benefits and \$4,700 indirect benefits. Benefits from more intensive land use will be \$78,625. Total average annual primary flood prevention benefits will be \$121,935.

Agricultural Water Management (Irrigation)

Estimated average annual primary benefits from irrigation measures will be \$159,055 after deduction of associated costs.

Municipal and Industrial Water

Estimated average annual primary benefits from municipal-industrial water measures will be \$61,200 after deduction of associated costs.

Recreation

The estimated benefits for recreation are based upon an initial development providing 210,000 visitor days annually. Included in these visitor day estimates is an initial angling usage of 22,000 angler-days on the reservoir for trout. The average annual benefit is \$398,250.

Fish Enhancement

Benefits resulting from anadromous fishery enhancement include \$17,640 from commercial fishing and \$22,500 from the sports fishing, for an average annual total benefit of \$40,140.

SECONDARY BENEFITS

Local secondary benefits will be equal to 10 percent of the increased production costs (including operation and maintenance costs) and 10 percent of the direct primary benefit. Estimated average annual secondary benefits will be \$131,730.

Secondary benefits from a national viewpoint were not considered pertinent to the economic evaluation and were not included in the benefit-cost analysis.

UNEVALUATED BENEFITS

The installation of the land treatment and structural measures will encourage additional interest in conservation of the resources of the watershed and will help to stabilize the economy of this area. It will also promote further capital improvements, increase employment, help maintain a higher standard of living, and contribute to the general welfare of the community and the state. It will also provide benefits from the conserving and enhancing of the environment by keeping the soil in place, protecting the quality of the water, and maintaining the esthetic beauty of the countryside.

Benefits of improved fire protection were not evaluated monetarily.

Benefits will also result from the reduced peak flows and flood stages on the Luckiamute River below the outlet of the watershed. These reductions were not evaluated but show that there is an inter-relationship between the upstream and downstream areas.

No evaluation was made of the reduction in sediment delivered downstream. However, since the watershed is in an excellent cover conditions, it is expected that this reduction would be small.

COMPARISON OF BENEFITS AND COSTS

The ratio of average annual benefits of structural measures, \$912,310 to the average annual cost of these measures, \$729,610 is 1.3 to 1. This ratio is based on 1970 prices for installation costs and on adjusted normalized prices for benefits, operation, and maintenance.

The ratio without the inclusion of secondary benefits is 1.1 to 1.

Average annual costs, benefits, and comparison of benefits and costs are shown in Tables 4, 5, and 6.



Strawberries illustrate a high intense use of cropland that provides summer employment for local youth.

SCS PHOTO 7-2865-11

PROJECT INSTALLATION

INSTALLATION PERIOD

The project measures will be installed progressively within a 6-year period. Installation of land treatment measures will be pursued in a systematic manner during construction of the project structural measures. During the first 2 years of project installation, most land treatment activity will be confined to completion of soil surveys and development of conservation plans. A major portion of the application of land treatment practices above project structural measures will be installed prior to installation of the structural measures. Application of measures to improve water control and distribution will be completed concurrently with the structural measures. Additional land treatment practices to allow a higher degree of management will be started prior to the installation of structural measures and completed concurrently with them.

The scheduled obligation of funds shown in the "Explanation of Installation Costs" section is based on the following proposed construction schedule:

	<u>Fiscal Year Initiated</u>	
	<u>Engineering Services</u>	<u>Construction</u>
Teal Creek Reservoir	1	2
Diversion System	2	3
Irrigation Water Distribution System	2	3
Recreation Facilities	3	4

INSTALLATION RESPONSIBILITIES

LAND TREATMENT MEASURES

The installation of land treatment measures will be the responsibility of the individual landowners or operators.

-Project Installation-

Technical assistance for planning and application of land treatment measures will be furnished by the Soil Conservation Service, the Forest Service, and the State Forestry Department to the landowners or operators through the Polk Soil and Water Conservation District.

It will be the responsibility of the Soil and Water Conservation District to obtain agreements from owners of not less than 50 percent of the land above the reservoir that they will carry out conservation plans on their land. The District will also encourage the development and installation of conservation farm and ranch plans on a high percentage of the land to be benefited by project measures. They will be responsible for providing leadership in an educational program to encourage the application of land treatment measures necessary to the success of this plan. The district will work closely with the county, cities and other public agencies to encourage adequate land use planning, zoning, land treatment on public lands, and the inclusion of protective measures as a requirement in building and other development permits.

S T R U C T U R A L M E A S U R E S

Federal assistance for carrying out the works of improvement as described in this plan will be provided under authority of the Watershed Protection and Flood Prevention Act, P.L. 566, as amended.

The installation of all structural measures except the Teal Creek recreation facilities will be the responsibility of the Little Luckiamute Improvement District. Installation of the Teal Creek recreation facilities will be the responsibility of Polk County. The Little Luckiamute Improvement District will be responsible for working with the Service in the construction of all structural measures except the recreational facilities. For the recreational facilities, Polk County will be responsible for working with the Service in the construction of these facilities.

It is planned to contract for engineering services for design of the Teal Creek Reservoir. The Service will provide engineering services for the diversion and irrigation distribution systems, and for stream treatment. The Improvement District will provide engineering services for the fish incubators.

The engineering services for the recreation facilities will be the responsibility of Polk County. Service personnel will assist as available on site location, design, and supervision of construction. It is planned for the major design and related engineering services necessary for installation of these facilities.

All engineering and legal services related to the acquisition of land rights, including the relocation of utilities, will be the responsibility of the local sponsoring organization with assigned responsibility for construction of the project measures. Assistance on these services will be obtained by agreement with the appropriate road department, utility company, other sponsor, or other agency. Polk County will assist the Little Luckiamute Improvement District on land appraisals and other services related to the acquisition of land rights and utility relocations for the Teal Creek Reservoir.

The local sponsoring organizations request that the Service administer all construction contracts and negotiate and administer engineering services contracts.

Relocation advisory services will be furnished by Polk County with assistance from the Little Luckiamute Improvement District and the Service. The Sponsors have determined that decent, safe, and sanitary replacement dwellings will be available prior to construction of Teal Creek Reservoir. Polk County will: (1) Provide personally or by first class mail, written notice of displacement and appropriate application forms to each displaced person, business or farm operation, (2) assist in filing applications, (3) review and take action on applications for relocation assistance, (4) review and process grievances in connection with displacements, and (5) make relocation payments.

P.L. 566 assistance for structural works of improvement (other than information for obtaining land, easements, and rights-of-way) will not be made available until the sponsoring local organization has acquired lands, easements, and rights-of-way or options sufficiently in advance of the scheduled installation of the works of improvement to provide a reasonable basis for the orderly design and construction of these measures.

The following minimum conditions shall be met before issuance of invitations to bid on any portion of construction:

1. The necessary acquisition of land and easements and the relocation of utilities will be assured by the sponsors. The project sponsors have the power of eminent domain and agree to use such authority if necessary. Therefore, Federal assistance for construction may be provided before all easements and rights-of-way for the entire project are obtained. In such cases, specific agreements on obtaining all necessary land, easements, and rights-of-way shall be reached and the willingness of the sponsors to exercise their authority reaffirmed.
2. Mutual agreements on the schedule for construction and on plans and specifications shall be reached. Terms of contracts and all matters pertaining to contracts or to works of improvement shall be mutually satisfactory and

-Project Installation-

in accordance with requirements of the sponsors and in agreement with the Soil Conservation Service technical and Administrative requirements.

3. Full conformance with state and Federal laws and regulations, including monitoring and control of polluting discharges, shall be the responsibility of the sponsors and shall be secured with no expenditure of P.L. 566 funds. Reasonable evidence of conformity shall be presented to the mutual satisfaction of all parties.
4. Agreements for operation and maintenance of the structural measures shall be secured.

METHODS OF INSTALLATION

The contracts for construction will be let by competitive bid and engineering contracts will be negotiated, except in cases where a formal construction contract is determined to be impractical and construction under force account can more reasonably be used. Force account operations may be used on construction elements where it is not feasible to perform sufficient engineering studies in order to prepare detailed plans and specifications. Force account may also be used where it is not practical or feasible for the local organization to provide cash for all the local share of the cost. Sponsors may in these cases be able to perform certain elements of the project work with their own force or with contributed labor, equipment, and materials in lieu of providing cash. When these conditions exist, the State Conservationist may approve force account arrangements. The provisions of the force account work will be included in the project or engineering agreement which will be mutually agreed to immediately prior to initiation of the concerned work.

PROVISIONS FOR OPERATION, MAINTENANCE AND REPLACEMENT

LAND TREATMENT

Land treatment measures will be maintained with costs borne by the landowner or operator. Technical assistance will be provided by the Soil Conservation Service, the Forest Service, and the Oregon State Forestry Department through the going programs of assistance to the Soil and Water Conservation Districts.

STRUCTURAL MEASURES

The operation and maintenance of the recreation facilities on the Teal Creek reservoir will be the responsibility of Polk County. The operation and maintenance of all other structural measures will be the responsibility of the Little Luckiamute Improvement District.

Inspections of works of improvement will be made annually and after every major flood for the first three years of operation by representatives of the Soil Conservation Service and the sponsors. The inspections will be made by representatives of the sponsors after the third year. Written inspection reports will be prepared by the sponsors and made available to the Soil Conservation Service at any time.

The Service may make inspections at any time to be assured that proper operation and maintenance is being carried out.

An establishment period of three years is provided for all structural works of improvement and associated vegetative cover. During this period the Soil Conservation Service may use PL-566 funds to cost share on any repairs or other work resulting from unknown conditions or deficiencies caused during construction. The cost of repairs will be cost shared in the same ratio as the original structure.

Specific operation and maintenance agreements between the sponsors and the Soil Conservation Service will be executed before the land rights agreement or a project agreement is executed.

Operation and maintenance of the structural measures shall conform to all appropriate local, State, and Federal regulation. Representatives of the Federal, State, and local governments shall have free access at all times to the structural measures for official activities.

Operation of the structures shall include, but not be limited to:

1. Operating the Teal Creek Reservoir for flood prevention, irrigation, recreation, fish and wildlife, and municipal water supply. The operation includes programming the reservoir releases to obtain flood prevention and fish benefits, to minimize downstream bank erosion, and to fill the storage capacity. The storage capacity to be jointly used for water supply and flood prevention will be left vacant until the hazard of major floods has passed and will then be filled according to a specific plan which will be detailed in the O&M agreement entered into between the District and the Service prior to construction of the reservoir. The stored waters will not be withdrawn below the recreation and fish pool elevation 369.5 msl, except for the withdrawal of 50 acre-feet to satisfy the landscaping and vegetative needs of the recreation development. The local organization is responsible for notifying the Soil Conservation Service through the State Conservationist whenever the reservoir is operated differently than the specified ranges, and jointly with the Service determine if there is a continuing need to do so.
2. Operating pumps and controls to regulate flows in the distribution systems to meet water supply needs.
3. Monitor water quality and take actions to prevent pollution.
4. Operating the recreation facilities associated with the Teal Creek Reservoir. The recreation development, including use of the reservoir area and associated recreational facilities will be operated by Polk County for use of the general public.

Operation of these facilities will include necessary custodial, policing, sanitation, pollution control, and safety services. The operation of the reservoir for recreation will be planned in consultation with the Oregon State Wildlife Commission and the Oregon State Marine Board to assure compatibility of fishing and boating with other proposed uses. Power boat regulations will be exercised when conditions require controls. Disposal of waste materials from boats will be prohibited.

Polk County will enter into an operation and maintenance agreement with the Little Luckiamute Improvement District for operation of the reservoir for recreational use prior to letting a construction contract. The operation of the reservoir will be coordinated with the Oregon State Department of Forestry to meet fire protection needs of the area.

Admission and use fees may be charged for portions of the recreational development. The schedule of admission and use fees together with other requirements for operation and maintenance of the recreation facilities must be mutually acceptable to the sponsors and the Service and will be set forth in the operation and maintenance agreement. Prior approval by the Farmers Home Administration must also be obtained if watershed loan funds for the recreation facilities are expected to be repaid from project revenue.

Polk County and the Little Luckiamute Improvement District will enter into an agreement with the Oregon State Wildlife Commission for operation and maintenance of the reservoir fishery, and with the Fish Commission of Oregon for operation of the anadromous fish handling facilities.

Polk County will consult with state and local public health agencies on operation plans for the recreational facilities and will be responsible for operating them to meet required health standards.

5. Operation of anadromous fish mitigation facilities at Teal Creek Reservoir will include all functions necessary to trap and hold adult fish and to handle Willamette River cutthroat trout which may use Teal Creek in the fall and winter months. Anadromous fish will either be passed over the dam or taken to an existing hatchery to collect eggs, and to raise the young fish to release size. It will also include operating the principal spillway and the emergency spillway to provide the water for egress of young anadromous fish from the reservoir in April, May, and June. The Little Luckiamute Improvement District will be responsible for operation of mitigation facilities. The District expects to contract with the State fishery agencies for actual performance of the work.

Maintenance of facilities shall include, but not be limited to:

1. Keeping all structures in serviceable condition by making replacements and repairs as needed.
2. Maintaining adequate capacity in natural and constructed channels by removal of debris jams by methods and at locations to minimize damage to stream substrates.

3. Checking the pipelines and appurtenances after each irrigation season and making necessary repairs including replacement of eroded earth cover.
4. Removal of sediment deposition from the diversion canal and from water control and pump structures to maintain required capacities.
5. Maintaining vegetative cover and rock riprap where needed.
6. Maintaining the recreational facilities. Maintenance will include keeping all facilities including roads, parking areas, and boat launching ramps in serviceable condition by making repairs and replacements as needed.
7. Maintenance of the reservoir fishery by periodic restocking and chemical treatment as necessary.
8. Maintenance of the fish facilities as required through agreements with the Fish Commission of Oregon.

Estimated average annual operation, maintenance, and replacement cost is \$127,510.

Operation, maintenance, and replacement costs will be paid by the responsible local sponsoring organization with funds obtained by assessments based on flood prevention benefits, recreation user fees, and from contracts for the purchase of irrigation or municipal-industrial water. The sponsors will also seek financial assistance from State of Oregon agencies on operation and maintenance items in their areas of responsibility.

Each operation and maintenance agreement will include a reference to the Soil Conservation Service "State Operation and Maintenance Handbook," and will include specific provisions for retention and disposal of property acquired or improved with P.L. 566 financial assistance.

Provisions will also be included for monitoring and control of noise.

FINANCING PROJECT INSTALLATION

Project installation costs allocated to P.L. 566 funds will be paid from funds appropriated under the authority of Public Law 566, 83d Congress; 68 Stat. 666, as amended. This work plan does not constitute a financial document for obligation of P.L. 566 or other funds. Financial or other assistance to be furnished by the Service in carrying out the plan is contingent on the appropriation of funds for this purpose.

All sponsors have participated in cost sharing decisions and have given assurances that their share of the installation cost will be available as indicated in the plan. The Little Luckiamute Improvement District and Polk County are the local sponsoring organizations with responsibility for the installation of structural measures. Both have the authorities necessary to borrow or otherwise raise money to finance the local share of project costs. Their authorities include the ability to enter into contracts with the Federal Government, other sponsors, and with other agencies to obtain financial assistance.

The Little Luckiamute Improvement District was organized during planning for this project. The District has raised funds to pay organizational costs and to assist in development of the project plan.

LAND TREATMENT

The cost of land treatment measures will be borne by the individual landowners or operators with such assistance as may be available from the Agricultural Conservation Program or other funds.

Technical assistance will be provided by the Soil Conservation Service, by going program funds, and from P.L. 566 funds for accelerated assistance in excess of the going program rate.

On private forest land technical assistance for land treatment and fire protection will be provided by the State Forester cooperating with the U. S. Forest Service. This assistance will be financed from regular cooperative program funds and from PL 566 funds for accelerated assistance in excess of the going program rate.

STRUCTURAL MEASURES

The Little Luckiamute **Improvement** District and Polk County plan to use the loan provision of Public Law 566 to finance their share of the installation costs for structural measures including Teal Creek Reservoir, the diversion system, the irrigation water distribution system, and recreation facilities. Loan funds will be used for obtaining landrights and for relocation payments and relocation advisory services.

Representatives of the Farmers Home Administration have participated in meetings of the County and the District and a preliminary application for a P.L. 566 loan has been submitted by the District and by the County to the State Director of FHA. Part of these funds will be used to acquire land rights on approximately 957 acres of land, including 600 acres for the Teal Creek Reservoir, 258 acres for the recreation facilities, 20 acres for the diversion system, and 79 acres for the irrigation water distribution system. The District has requested a loan of \$1,200,000 to finance their portion of the project. These funds will be used to assist in paying for their share of the installation costs for the Teal Creek Reservoir, Diversion System, and the Irrigation Water Distribution System. The County has requested a loan of \$1,700,000 to finance their portion of the project. These funds will be used to assist in paying for their share of the installation costs for the Teal Creek Reservoir, Diversion System, and the Recreation Facilities. The amounts of the loans will be adjusted as future needs are determined.

The sponsors will repay this loan and obtain necessary funds for operation, maintenance, and replacement from assessments based on flood prevention benefits, recreation user fees, and from contracts for the purchase of irrigation and municipal and industrial water supplies. The sponsors will seek financial assistance from the Oregon State Marine Board and the Oregon State Wildlife Commission on items of installation where these agencies have interests.

Agreements entered into with these agencies will be noted in the project agreements signed prior to letting contracts for structural measures.

Polk County plans to use the provisions of P.L. 566 permitting an advance of P.L. 566 funds for financing future municipal and industrial water supplies. An advance of \$360,000 will be used to meet the construction costs for a capacity of 2,875 acre feet of future municipal water. This will not exceed 30 percent of the total installation cost of the structure.

Polk County will enter into an agreement for repayment of the advance to the Farmers Home Administration prior to the execution of the project agreement.

-Financing Project Installation-

The county intends to use the water from this storage capacity in approximately 10 years. The State Director of the Farmers Home Administration has tentatively concurred in this proposed advance of funds.

The City of Monmouth will finance those costs associated with 1,000 acre feet of municipal water for the City of Monmouth through revenue bonds. These bonds to be retired through the sale of water in the City of Monmouth. This supply will be for immediate use by the city.

Program income earned by the sponsors as a result of grant-supported activities in this project shall be handled in accordance with instructions in General Services Administration Federal Management Circular 74-7.

Prior to entering into agreements that obligate funds of the Service, the local sponsoring organization will have a financial management system for control, accountability, and disclosure of P.L. 566 funds received, and for control and accountability for property and other assets purchased with P.L. funds.

Program income earned during the grant period will be reported on the sponsor's request for advance or reimbursement from the Service.

TABLE 1 - ESTIMATED PROJECT INSTALLATION COST

Little Luckiamute River Watershed, Oregon

Page 1 of 2

Installation Cost Item	:	Unit	:	Number ^{2/}	:	Estimated Cost (Dollars) 1/				:	Total
						P. L. 566	Other	Funds	Funds		
LAND TREATMENT MEASURES											
Soil Conservation Service											
Cropland		Acres		7,000		-	758,520				758,520
Grassland		Acres		470		-	13,880				13,880
Technical Assistance		-		-		67,406	6,052				73,458
Subtotal - SCS				-		67,406	778,452				845,858
Forest Service											
Forest Land		Acres		1,140		-	2,400				2,400
Fire Protection		Acres		43,160		5,000	47,130				52,130
Technical Assistance		-		-		4,200	2,700				6,900
Subtotal - FS		-		-		9,200	52,230				61,430
TOTAL LAND TREATMENT		-		-		76,606	830,682				907,288
STRUCTURAL MEASURES											
Construction											
Soil Conservation Service											
Teal Creek Reservoir	No.			1		2,542,710	2,132,250				4,674,960
Fish Incubators	No.			1		--	4,000				4,000
Stream Treatment	No.			1		1,000	1,000				2,000
Diversion System	No.			1		1,267,445	98,115				1,365,560
Irrigation Water Distribution System	No.			1		607,140	607,140				1,214,280
Recreation Facilities	No.			1		291,670	301,670				593,340
Subtotal - Construction	-			-		4,709,965	3,144,175				7,854,140

TABLE 1 - ESTIMATED PROJECT INSTALLATION COST

Little Luckiamute River Watershed, Oregon

Page 2 of 2

Installation Cost Item	:	Unit	:	Number ^{2/}	:	Estimated Cost (Dollars) ^{1/}		
						P.L. 566	Other	Total
						Funds	Funds	
<u>Engineering Services</u>		-		-		465,955	63,795	529,750
<u>Project Administration</u>								
Construction Supervision		-		-		821,900	-	821,900
Relocation Assistance		-		-		-	3,600	3,600
Advisory Services								
Other		-		-		821,900	182,700	1,004,600
Subtotal - Project Administration		-		-		1,643,800	186,300	1,830,100
<u>Relocation Payments</u>		-		-		19,270	13,070	32,340
<u>Other Costs</u>								
Land Rights		-		-		267,390	627,190	894,580
Water Rights		-		-		-	800	800
Subtotal - Other		-		-		267,390	627,990	895,380
TOTAL STRUCTURAL MEASURES		-		-		7,106,380	4,035,330	11,141,710
TOTAL PROJECT		-		-		7,182,986	4,866,012	12,048,998

^{1/} 1970 Price Base^{2/} All works of improvement will be installed on non-Federal Land

NOTE: See Addendum, Part 1, for updated costs.

October 1971

TABLE 1A - STATUS OF WATERSHED WORKS OF IMPROVEMENT

(AT TIME OF WORK PLAN PREPARATION)

Little Luckiamute River Watershed, Oregon

Measures	Unit	Applied To Date	Total Cost <u>1/</u>
Conservation Cropping System	Acres	1,737	2,605
Contour Farming	Acres	100	50
Land Clearing	Acres	0	0
Irrigation Sprinkler Systems	No.	40	405,000
Irrigation Water Management	Acres	700	1,400
Tile Drainage	Lin. Ft.	720,000	21,600
Streambank Protection	Lin. Ft.	200	200
Stream Channel Improvement	Lin. Ft.	600	600
Irrigation Pipelines	Lin. Ft.	1,500	1,350
Woodland Improvement	Acres	1,820	41,629
Woodland Fire Protection	Acres	43,160	7,855 <u>2/</u>
Hay and Pasture Management	Acres	200	800
Hay and Pasture Planting	Acres	100	4,000
TOTAL			487,089

1/ Current prices.

2/ Cost per year

October 1971

TABLE 2 - ESTIMATED STRUCTURAL COST DISTRIBUTION

Little Luckiamute River Watershed, Oregon

(Dollars) 1/

Item	Installation Cost - P.L. 566 Funds					Installation Cost - Other Funds					Total Installation Cost	
	Construction	Engineering	Land Rights	Relocation Payments	Total	Construction	Engineering	Land Rights	Relocation Payments	Total		
Teal Creek Res.	2,542,710	220,120	189,990	19,270	2,972,090	2,132,250	25,380	311,610 ^{2/}	800	13,070	2,483,110	5,455,200
Fish Incubators	-	-	-	-	-	4,000	400	-	-	-	4,400	4,400
Stream Treatment	1,000	500	-	-	1,500	1,000	-	-	-	-	1,000	2,500
Diversion System	1,267,445	99,240	-	-	1,366,685	98,115	3,350	201,050	-	-	302,515	1,669,200
Irrigation Water Distribution Sys.	607,140	121,430	-	-	728,570	607,140	-	21,650	-	-	628,790	1,357,360
Recreation Facilities	291,670	24,665	77,400	-	393,735	301,670 ^{3/}	34,665	92,880 ^{4/}	-	-	429,215	822,950
Subtotal	4,709,965	465,955	267,390	19,270	5,462,580	3,144,175	63,795	627,190	800	13,070	3,849,030	9,311,610
Project Administration					1,643,800						186,300	1,830,100
TOTAL					7,106,380						4,035,330	11,141,710

1/ Price base 1970

2/ Includes \$96,000 for road relocation, \$5,000 for powerline relocation, \$20,000 for relocation of Monmouth and Falls City waterlines, and \$45,600 for survey, legal fees and other related costs.

3/ Includes \$10,000 for maintenance facility.

4/ Includes \$15,480 for survey, legal fees and other related costs.

NOTE: See Addendum, Part 1, for updated costs.

October 1971

TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY
Little Luckiamute River Watershed, Oregon

(Dollars) 1/

Page 1 of 2

Item	Cost Allocation - Purpose						Total
	Flood Prevention	Irrigation	Recreation	Fish and Wildlife	M&I Water		
Teal Creek Reservoir	947,120	667,250	2,615,820	680,710	544,300		5,455,200
Fish Incubators	-	-	-	4,400	-		4,400
Stream Treatment	-	-	2,500	-	-		2,500
Diversion System	1,483,745	131,030	-	-	54,425		1,669,200
Irrigation Water Distribution System	-	1,357,360	-	-	-		1,357,360
Recreation Facilities	-	-	822,950	-	-		822,950
TOTAL	2,430,865	2,155,640	3,441,270	685,110	598,725		9,311,610

1/ Price Base 1970

October 1971

TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY (continued)
 Little Luckiamute River Watershed, Oregon
 (Dollars) 1/

Item	P. L. 566										Cost Sharing					Other				
	Flood Prevention	Irrigation	Recreation	Wild- life	Fish & Wild- life	M&I Water	2/	Total	Flood Preven- tion	Irrigation	Recreation	Wild- life	Fish & Wild- life	M&I Water	Total					
Teal Creek Reservoir	944,470	323,470	1,350,675	351,485	1,990		2,972,090	2,650	343,780	1,265,145	329,225	542,310	2,483,110							
Fish Incubators	-	-	-	-	-		-	-	-	-	4,400	-	4,400							
Stream Treatment	-	-	1,500	-	-		1,500	-	-	1,000	-	-	1,000							
Diversion System	1,305,035	61,650	-	-	-		1,366,685	178,710	69,380	-	-	54,425	302,515							
Irrigation Water Distribution System	-	728,570	-	-	-		728,570	-	628,790	-	-	-	628,790							
Recreation Facilities	-	-	393,735	-	-		393,735	-	-	429,215	-	-	429,215							
TOTAL	2,249,505	1,113,690	1,745,910	351,485	1,990		5,462,580	181,360	1,041,950	1,695,360	333,625	596,735	3,849,030							

1/ Price base 1970

2/ P.L. 566 costs include \$1,990 of Relocation Payment cost allocated to M & I Water.

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TABLE 2B - RECREATION FACILITIES

ESTIMATED CONSTRUCTION COST

(Dollars) 1/

Little Luckiamute River Watershed, Oregon

Page 1 of 2

Item	Unit	Number	Estimated Unit Cost	Construc- tion Cost
Roads				
2-Lane Asphalt	ft.	11,000	10.00	110,000
1-Lane Asphalt	ft.	10,000	6.00	60,000
Trails	mi.	6	2,000.00	12,000
Parking Areas				
Asphalt	ac.	5	12,000.00	60,000
Sod	ac.	10	500.00	5,000
Tables (treated wood)	no.	420	50.00	21,000
Fireplaces	no.	100	50.00	5,000
Shelters	no.	5	7,000.00	35,000
Restrooms				
10 unit	no.	4	8,000.00	32,000
8 unit	no.	2	6,000.00	12,000
Sewer Line	ft.	4,000	2.50	10,000
Septic Tank & Drain Field	no.	4	3,000.00	12,000
Beach Dev. (sand & revetment)	no.	1	10,000.00	10,000
Bath House	no.	1	20,000.00	20,000
Swimming Dock	no.	2	1,200.00	2,400
Log Booms	ft.	1,500	1.00	1,500
Boat Ramp	no.	1	10,000.00	10,000
Boat Dock	no.	1	5,000.00	5,000
Irrigation System	ac.	30	1,000.00	30,000
Fencing	ft.	10,000	1.00	10,000
Clearing and Planting	ac.	20	1,000.00	20,000
Signs	lump	-	-	1,500
Public Water Supply System	lump	-	-	20,000
Power Facilities & Lighting	lump	-	-	15,000
Sewage & Waste Dumping Station	no.	1	10,000.00	10,000

TABLE 2B - RECREATION FACILITIES

ESTIMATED CONSTRUCTION COST

(Dollars) 1/

Little Luckiamute River Watershed, Oregon

Page 2 of 2

Item	Unit	Number	Estimated Unit Cost	Construc- tion Cost
Maintenance Facility	no.	1	10,000.00	10,000 <u>2/</u>
Subtotal				539,400
Contingencies				53,940
TOTAL				593,340 <u>3/</u>

1/ 1970 Price Base

2/ Ineligible for cost sharing assistance.

October 1971

3/ Estimated cost for facilities for an estimated use of 420,000 activity days (210,000 visitor days) annually. The actual cost will be established by the bids received based on the final approved design.

TABLE 3 - STRUCTURE DATA
MULTIPLE PURPOSE RESERVOIR

Little Luckiamute River Watershed, Oregon

Page 1 of 2

Item	Unit	Teal Creek
Class of Structure		"C"
Drainage Area	Sq. mi.	9.83 (40.17) ^{1/}
Curve Number (1 day)		80
Tc	Hrs.	4.0
Elevation Top of Dam	Ft.(msl)	400.7
Elevation Crest Emergency Spillway	Ft.(msl)	395.1
Elevation Crest Principal Spillway	Ft.(msl)	374.6
Maximum Height of Dam	Ft.	110
Volume of Fill	Cu. yds.	4,040,000
Total Capacity	Ac. ft.	25,000
Irrigation ^{2/}	Ac. ft.	6,216
M&I ^{3/}	Ac. ft.	3,875
Fish Pool	Ac. ft.	3,000
Recreation Pool	Ac. ft.	11,528
Submerged Sediment	Ac. ft.	381
Retarding Capacity ^{4/}	Ac. ft.	8,800
Surface Area		
Sediment Pool	Ac.	50
Floodwater Pool at Crest of Emergency Spillway	Ac.	440
Irrigation Pool	Ac.	440
Recreation & Fish Pool	Ac.	340
M&I	Ac.	360
Principal Spillway		
Runoff Volume (1 day)	In.	5.1
Runoff Volume (10 day)	In.	22.0
Capacity	cfs	245 (low stage & 1900 (high stage)
Frequency of Operation of Emergency Spillway	%	1

TABLE 3 - STRUCTURE DATA
MULTIPLE PURPOSE RESERVOIR

Little Luckiamute River Watershed, Oregon

Page 2 of 2

Item	Unit	Teal Creek
Emergency Spillway		
Rainfall Volume (ESH) (areal)	In.	21.4
Runoff Volume (ESH)	In.	18.27
Type		Concrete Chute
Crest Length	Ft.	105
Maximum Water Surface Elevation	Ft.	399.1
Freeboard Spillway		
Rainfall Volume (FH) (areal)	In.	34.91
Runoff Volume (FH)	In.	31.36
Type		Concrete Chute
Crest Length	Ft.	105
Maximum Water Surface Elevation	Ft.	400.7
Capacity Equivalents		
Sediment Volume	In.	.72(.18)
Retarding Volume	In.	16.8 (4.1)
Spillway Storage	In.	4.57(1.12)

1/ Numbers in parenthesis reflect addition of 30.34 sq. mi. drainage area at point of diversion system.

2/ All joint use with floodwater retarding capacity.

3/ 2,584 acre feet joint use with flood prevention.

4/ Joint use with irrigation and M & I

October 1971

TABLE 3A - STRUCTURE DATA
IRRIGATION WATER DISTRIBUTION SYSTEM
Little Luckiamute River Watershed, Oregon

Acres Served 4,100

<u>Pipe Diameter</u>	<u>Feet</u>	<u>Pumping Plant</u>	<u>Plant HP</u>
39"	2,650	R-1	450
36"	8,200	R-2	150
		R-3	150
30"	12,120	B-35	15
28"	4,520	B-33	10
26"	3,840	B-30	15
24"	6,300	D M-1	30
22"	21,060	D M-2	20
20"	9,700	E-8	7½
18"	10,540	E-6	10
16"	6,820	E-4	1
14"	9,550	E-3	2
12"	8,170	F-2	3
10"	9,110	F-3	5
8"	5,040	F-5	10
6"	3,850	F-6S	50
5"	1,000	F-7M	20
4"	2,550	F-9S	40
	<u>124,520</u>	<u>18</u>	<u>988½</u>

No. Meters 104

October 1971

TABLE 3B - STRUCTURE DATA

DIVERSION SYSTEM

Little Luckiamute River Watershed, Oregon

Channel Name	Station or Reach	Capacity		Canal Gradient		Canal Dimensions		Bot- tom		Depth	Veloc- ities	Excava- tion	Backfill	Concrete
		Req'd	Design	ft./ft.	ft.	ft.	ft.	ft.	ft.					
	100 feet	cfs									fps	cu.-yds.	cu.-yds.	cu.-yds.
Diversion Canal	6+66 to 10+80	2,000	2,000	.0025	14	11					14.5			
	10+80 to 69+20	1,200	1,200	.0025	14	8					12.2			
	69+20 to 80+20	1,200	1,200	.029	14	3					28.6			
												121,840	76,900	9,380

1/ Side slopes: vertical for all portions of the canal.2/ Includes 500 cu-yds. of concrete for the diversion dam across Little Luckiamute and 610 cu-yds. of concrete for roadways and culvert crossings.

October 1971

TABLE 4 - ANNUAL COST
Little Luckiamute River Watershed, Oregon
(Dollars) 1/

Evaluation Unit	Amortization of Installation Cost <u>2/</u>	Operation Maintenance Cost <u>3/</u>	Total
All Structural Measures	503,200	127,510 <u>3/</u>	630,710
Project Administration	98,900	-	98,900
GRAND TOTAL	602,100	127,510	729,610

1/ Price Base: Installation 1970; O&M Adjusted Normalized.

2/ 100 years @ 5-3/8 percent interest.

3/ Includes \$67,150 for operation, maintenance and replacement for the recreational developments.

NOTE: See Addendum, Part 1, for updated costs.

October 1971

TABLE 5
ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFITS
Little Luckiamute River Watershed, Oregon
(Dollars) 1/

Item	: Estimated Average Annual Damage Without Project	: Estimated Average Annual Damage With Project	: Damage Reduction Benefit
<u>Floodwater and Related Sediment</u>			
Crop and Pasture	42,780	23,240	19,540
Other Agricultural	16,690	5,860	10,830
Roads and Bridges	12,010	3,770	8,240
Subtotal	71,480	32,870	38,610
<u>Indirect</u>	8,350	3,650	4,700
TOTAL	79,830	36,520	43,310

1/ *Adjusted Normalized Prices.*

October 1971

TABLE 6 - COMPARISON OF BENEFITS AND COSTS FOR STRUCTURAL MEASURES

Little Luckiamute River Watershed, Oregon

(Dollars) 1/

Evaluation Unit	Average Annual Benefits 1/							Total	Average Annual Cost 2/	Benefit:Cost Ratio
	Damage: Reduction	More Intensive: Land Use	Irrigation	Fish & Wildlife: Life	Municipal: Water Supply	Recreation: tion	Secondary: dary			
All Structural Measures	43,310	78,625	159,055	40,140	61,200	398,250	131,730	912,310	630,710	1.4:1
Project Administration	-	-	-	-	-	-	-	-	98,900	
GRAND TOTAL	43,310	78,625	159,055	40,140	61,200	398,250	131,730	912,310	729,610	1.3:1

1/ Adjusted Normalized Prices.
2/ From Table 4.

October 1971

NOTE: See Addendum, Part 1, for updated costs and benefits.

ADDENDUM

To The

Watershed Work Plan Little Luckiamute River Watershed

Polk County, Oregon

C O N T E N T S

Introduction

- Part 1 - Effect of evaluation structural measures using current values for benefits and costs, and the current discount rate.
- Part 2 - Display accounts for impacts of:
 - National Economic Development
 - Regional Development
 - Environmental Quality
 - Social Well-Being
- Part 3 - Abbreviated Environmental Quality Alternative Plan

May 1975

ADDENDUM

Little Luckiamute Watershed Work Plan

INTRODUCTION

This addendum is based on procedures established for application of the Water Resources Council's Principles and Standards to implementation studies in process.

The Little Luckiamute River Watershed Work Plan dated October 1971 was developed using 1970 prices for structural installation and non-agricultural benefits; a 5 3/8 percent discount rate; adjusted normalized prices for agricultural products and for structural operation and maintenance; and recreation values based on Senate Document 97 in the evaluation of structural measures.

Part 1 of this addendum shows the effect of evaluating the structural measures using 1974 installation costs, a 5 7/8 percent discount rate, current normalized prices for agricultural products, current prices for values other than agricultural products, and current recreation values in the evaluation of the project structural measures.

Part 2 of the addendum displays the effects of the selected plan as evaluated for each of the separate accounts - national economic development, environmental quality, regional development, and social well-being. Values for costs, prices, and rates are those of the October 1971 work plan.

Part 3 of the addendum displays an abbreviated alternative plan developed to emphasize environmental quality. Bases for costs, prices and rates are equivalent to those used for the October 1971 work plan.

ADDENDUM PART 1

LITTLE LUCKIAMUTE RIVER WATERSHED WORK PLAN

EFFECT OF USING CURRENT VALUES FOR EVALUATIONS

The following tabulation shows the effect of evaluating the structural measures using a 5 7/8 percent discount rate, 1974 installation costs, current prices for values other than agricultural products, current normalized prices for agricultural products, and current recreation values.

Average Annual Costs	\$1,114,700
Average Annual Benefits:	
Primary Benefits	1,156,600
Secondary	<u>251,300</u>
Total Benefits	\$1,407,900
Benefit to Cost Ratios:	
Total Benefits to Cost	1.26 to 1.0
Without Secondary Benefits	1.04 to 1.0

Tables with details of these costs and benefits are on Addendum, Part 1, pages 2 through 9.

May 1975

TABLE 1 - ESTIMATED PROJECT INSTALLATION COST

Little Luckiamute River Watershed, Oregon

Page 1 of 2

Installation Cost Item	Unit	Number ^{2/}	Estimated Cost (Dollars) 1/			
			P. L. 566	Other	Total	
			Funds	Funds		
<u>LAND TREATMENT MEASURES</u>						
Soil Conservation Service						
Cropland	Acres	7,000		1,190,900		1,190,000
Grassland	Acres	470		21,800		21,800
Technical Assistance	-	-	105,800	9,500		115,300
Subtotal - SCS		-	105,800	1,222,200		1,328,000
Forest Service						
Forest Land	Acres	1,140		3,800		3,800
Fire Protection	Acres	43,160	7,800	74,000		81,800
Technical Assistance	-	-	6,600	4,200		10,800
Subtotal - FS		-	14,400	82,000		96,400
TOTAL LAND TREATMENT	-	-	120,200	1,304,200		1,424,400
<u>STRUCTURAL MEASURES</u>						
Construction						
Soil Conservation Service	No.	1				
Teal Creek Reservoir	No.	1	3,610,600	3,027,800		6,638,400
Fish Incubators	No.	1		5,700		5,700
Stream Treatment	No.	1	1,400	1,400		2,800
Diversion System	No.	1	1,799,800	139,300		1,939,100
Irrigation Water Distribution System	No.	1	862,150	862,150		1,724,300
Recreation Facilities	No.	1	414,150	428,350		842,500
Subtotal - Construction	-	-	6,688,100	4,464,700		11,152,800

TABLE 1 - ESTIMATED PROJECT INSTALLATION COST

Little Luckiamute River Watershed, Oregon

Page 2 of 2

Installation Cost Item	:	:	Unit	:	:	Number ^{2/}	:	Estimated Cost (Dollars) ^{1/}		
								P.L.566	Other	Total
								Funds	Funds	
<u>Engineering Services</u>	-	-	-	-	-	-	-	668,700	83,500	752,200
<u>Project Administration</u>										
Construction Supervision	-	-	-	-	-	-	-	1,167,100	-	1,167,100
Relocation Assistance	-	-	-	-	-	-	-	-	5,100	5,100
Advisory Services	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	1,167,000	259,400	1,426,400
Subtotal - Project Administration	-	-	-	-	-	-	-	2,334,100	264,500	2,598,600
<u>Relocation Payments</u>	-	-	-	-	-	-	-	42,000	29,000	71,000
<u>Other Costs</u>										
Land Rights	-	-	-	-	-	-	-	395,600	937,400	1,333,000
Water Rights	-	-	-	-	-	-	-	-	1,100	1,100
Subtotal - Other	-	-	-	-	-	-	-	395,600	938,500	1,334,100
TOTAL STRUCTURAL MEASURES	-	-	-	-	-	-	-	10,128,500	5,780,200	15,908,700
TOTAL PROJECT	-	-	-	-	-	-	-	10,248,700	7,084,400	17,333,100

^{1/} Price base 1974^{2/} All works of improvement will be installed on non-Federal land

May 1975

TABLE 2 - ESTIMATED STRUCTURAL COST DISTRIBUTION

Little Luckiamute River Watershed, Oregon

(Dollars) 1/

Item	Installation Cost - P.L. 566 Funds					Installation Cost - Other Funds					Total Installative Cost	
	: :Construc- : tion	:Engin- : eering	: Land : Rights	:Relocation : Payments	: Total : P.L. 566	Construc- tion	: Engin- : eering	: Land : Rights	: Relocation : Payments	: Total : Other		
Teal Creek Res.	3,610,600	312,600	280,300	42,000	4,245,500	3,027,800	36,000	467,100	1,100	29,000	3,561,000	7,806,500
Fish Incubators	-	-	-	-	-	5,700	600	-	-	-	6,300	6,300
Stream Treatment	1,400	700	-	-	2,100	1,400	-	-	-	-	1,400	3,500
Diversion System	1,799,800	140,900	-	-	1,940,700	139,300	4,800	299,600	-	-	443,700	2,384,400
Irrigation Water Distribution Sys.	862,150	172,400	-	-	1,034,550	862,150	-	32,300	-	-	894,450	1,929,000
Recreation Facilities	414,150	42,100	115,300	-	571,550	428,350	42,100	138,400 4/	-	-	608,850	1,180,400
Subtotal	6,688,100	668,700	395,600	42,000	7,794,400	4,464,700	83,500	937,400	1,100	29,000	5,515,700	13,310,100
Project Administration					2,334,100						264,500	2,598,600
TOTAL					10,128,500						5,780,200	15,908,700

1/ Price base 1974

2/ Includes \$143,000 for road relocation, \$7,500 for powerline relocation, \$29,800 for relocation of Monmouth and Falls City waterlines, and \$67,900 for survey, legal fees and other related costs.

3/ Includes \$14,200 for maintenance facility.

4/ Includes \$23,100 for survey, legal fees and other related costs.

May 1975

TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY
Little Luckiamute River Watershed, Oregon

(Dollars) L/

Page 1 of 2

Item	Cost Allocation - Purpose						Total
	Flood Prevention	Irrigation	Recreation	Fish and Wildlife	M&I Water		
Teal Creek Reservoir	1,349,700	954,400	3,749,300	975,500	777,600		7,806,500
Fish Incubators	-	-	-	6,300	-		6,300
Stream Treatment	-	-	3,500	-	-		3,500
Diversion System	2,119,500	187,100	-	-	77,800		2,384,400
Irrigation Water Distribution System	-	1,929,000	-	-	-		1,929,000
Recreation Facilities	-	-	1,180,400	-	-		1,180,400
TOTAL	3,469,200	3,070,500	4,933,200	981,800	855,400		13,310,100

L/ Price Base 1974

May 1975

TABLE 2A - COST ALLOCATION AND COST SHARING SUMMARY (continued)
Little Luckiamute River Watershed, Oregon

(Dollars) 1/
Page 2 of 2

Item	Cost Sharing											
	P. L. 566						Other					
	Flood Prevention	Irrigation	Recreation	Wild- life	Fish & M&I 2/	Total	Flood Preven- tion	Irrigation	Recreation	Wild- life	Fish & M&I Water	Total
Teal Creek Reservoir	1,343,900	461,200	1,933,100	503,000	4,300	4,245,500	5,800	493,200	1,816,200	472,500	773,300	3,561,000
Fish Incubators	-	-	-	-	-	-	-	-	-	6,300	-	6,300
Stream Treatment	-	-	2,100	-	-	2,100	-	-	1,400	-	-	1,400
Diversion System	1,853,200	87,500	-	-	-	1,940,700	266,300	99,600	-	-	77,800	443,700
Irrigation Water Distribution System	-	1,034,550	-	-	-	1,034,550	-	894,450	-	-	-	894,450
Recreation Facilities	-	-	571,550	-	-	571,550	-	-	608,850	-	-	608,850
TOTAL	3,197,100	1,583,250	2,506,750	503,000	4,300	7,794,400	272,100	1,487,250	2,426,450	478,800	851,100	5,515,700

1/ Price base 1974

2/ P.L. 566 costs include \$4,300 of Relocation Payment cost allocated to M & I Water.

May 1975

TABLE 4 - ANNUAL COST
 Little Luckiamute River Watershed, Oregon
 (Dollars) ^{1/}

Evaluation Unit	: Amortization of : Installation Cost ^{2/}	: Operation : Maintenance Cost	: Total
All Structural Measures	784,600	176,900 ^{3/}	961,500
Project Administration	153,200	-	153,200
GRAND TOTAL	937,800	176,900	1,114,700

^{1/} Price Base: 1974

^{2/} 100 years @ 5-7/8 percent interest.

^{3/} Includes \$93,200 for operation, maintenance and replacement for the recreational developments.

May 1975

TABLE 5
ESTIMATED AVERAGE ANNUAL FLOOD DAMAGE REDUCTION BENEFITS
Little Luckiamute River Watershed, Oregon
(Dollars) 1/

Item	Estimated Average		Damage Reduction Benefit
	Annual Damage		
	Without	With	
	Project	Project	
<u>Floodwater and Related Sediment</u>			
Crop and Pasture	77,500	42,100	35,400
Other Agricultural	26,200	9,200	17,000
Roads and Bridges	23,000	7,200	15,800
Subtotal	126,700	58,500	68,200
<u>Indirect</u>	15,000	6,600	8,400
TOTAL	141,700	65,100	76,600

1/ Current Normalized Prices.

May 1975

TABLE 6 - COMPARISON OF BENEFITS AND COSTS FOR STRUCTURAL MEASURES

Little Luckiamute River Watershed, Oregon

(Dollars) 1/

Evaluation Unit	Average Annual Benefits 1/							Average: Bene- : Annual : fit: : Cost 2/ : Cost : Ratio	
	: Damage: More : Reduc-: Intensive: : tion : Land Use :	: Irriga-: Wild-: Water : tion : life : Supply	: Fish &: Municipal: : Recrea-: Secon- : tion : dary :	: Total					
All Structural Measures	76,000 158,300 312,300 64,600 72,900 472,500 251,300 1,407,900							961,500	1.5:1.0
Project Administration	- - - - - - - -							153,200	
GRAND TOTAL	76,000 158,300 312,300 64,600 72,900 472,500 251,300 1,407,900							1,114,700	1.3:1.0

1/ Current Normalized Prices.

2/ From Table 4.

May 1975

SELECTED ALTERNATIVE

NATIONAL ECONOMIC DEVELOPMENT ACCOUNT

Little Luckiamute River Watershed Project

<u>BENEFICIAL EFFECTS</u>		<u>ADVERSE EFFECTS</u>	
<u>Components</u>	<u>Measure of Effects</u> 1/ <u>(dollars)</u>	<u>Components</u>	<u>Measure of Effects</u> 1/ <u>(dollars)</u>
The value to users of increased output of goods and services:		The value of resources required for a plan:	
Flood Prevention	121,935	Multiple purpose reservoir, diversion system, recreational facilities, and irrigation distribution system:	
Irrigation	159,055		
Recreation	398,250	Project Installation	503,200
Municipal Water Supply	61,200	Project Administration	98,900
Fishery Enhancement	40,140	OM&R	127,510
Total Beneficial Effects	780,580	Total Adverse Effects	729,610
Net Beneficial Effects	50,970		

1/ Average Annual

May 1975

SELECTED ALTERNATIVE

REGIONAL DEVELOPMENT ACCOUNT

Little Luckiamute River Watershed Project

Oregon

<u>RENEFICIAL EFFECTS</u>		<u>ADVERSE EFFECTS</u>	
<u>Components</u>	<u>Measure of Effects</u>	<u>Components</u>	<u>Measure of Effects</u>
	State of Oregon		State of Oregon
	Rest of Nation		Rest of Nation
I. Income: <u>1/</u>		I. Income: <u>1/</u>	
The value of increased output of goods and services to users residing in the region:		The value of resources contributed from within the region to achieve the outputs:	
Flood Prevention	121,935	Multiple-purpose reservoir, diversion system, recreational facilities and irrigation distribution system:	
Irrigation	159,055	Project Installation	208,000
Recreation	398,250	Project Administration	10,100
Municipal Water Supply	61,200	OM&R	127,510
Fishery Enhancement	40,140		295,200
			88,800
			-0-
The value of output to users residing in the region from external economies:		Total Adverse Effects	384,000
Induced by and Stemming from Effects	131,730		
Total Beneficial Effects (Income)	912,310	II. Employment: <u>2/</u>	
		Decrease in Number of Jobs Agriculture and Forestry Prod. (Annual)	4
II. Employment: <u>2/</u>			-0-
Increase in number of jobs:			
Employment For Project Constr. (1yr.)	322	<u>1/</u> Average Annual Dollars	
Employment For Project OM&R (Annual)	15	<u>2/</u> Man-years	
Employment In Services and Trade Activities Induced by and Stemming from Project Operation (Annual)	132		

SELECTED ALTERNATIVE
REGIONAL DEVELOPMENT ACCOUNT
Little Luckiamute River Watershed Project
Oregon

BENEFICIAL EFFECTS (Continued)		Measure of Effects	
Components		State of Oregon	Rest of Nation
II. Employment: <u>2/</u> (Continued)			
Total Beneficial Effects (Employment)			
Semi-skilled Jobs for 1 Year	322		
Semi-skilled Jobs Annually	147		
III. NET BENEFICIAL EFFECTS			
Income		566,700	-384,000
Employment			
Semi-skilled Jobs for 1 Year	322		
Semi-skilled Jobs Annually	143		
		State of Oregon	
IV. Regional Economic Base and Stability	The project will provide flood prevention needed to properly manage 2,940 acres of good agricultural land and water to irrigate 4,100 acres which will improve the capability of the region to meet increased production needs for food and fiber.		

2/ Man-years

SELECTED ALTERNATIVE

REGIONAL DEVELOPMENT ACCOUNT

Little Luckiamute River Watershed Project

Oregon

BENEFICIAL EFFECTS (Continued)
Components Measure of Effects

State of Oregon

- | | |
|--|--|
| IV. Regional Economic Base and Stability (Continued) | Recreation and fishery are two of the major industries and sources of income in the region. The project will provide a permanent enhancement for both and thereby help improve the regional income base. |
| V. Population Distribution | The increased employment and income provided by the project will help sustain the present pattern of a steady increase of in-migration being experienced by the region. |

May 1975

SELECTED ALTERNATIVE
ENVIRONMENTAL QUALITY ACCOUNT
Little Luckiamute River Watershed Project, Oregon
MEASURES OF BENEFICIAL AND ADVERSE EFFECTS

A. Areas of Natural Beauty

1. Project output will strengthen the economic base making available regional funds and resources that can be used to enhance the physical appearance of about 60 operating farms and ranches on 8,940 acres, numerous rural residential acreages and dwellings and Falls City.
2. Storage of 6,216 acre feet of water will provide a full season supply of water for irrigation of 4,100 acres resulting in more summer and fall green color contrast.
3. Creation of a multiple-purpose reservoir with a 440 acre water surface and 4.8 miles of shoreline and 10 farm ponds with 60 surface acres will improve the ratio of water to land area.
4. The reservoir will inundate 2.5 miles of natural streams and 440 acres of native pasture, hay and grain cropland, brush and woodland along Teal and Boughey Creeks.
5. Reduced peak flows for 15 miles along Little Luckiamute River and Teal Creek will improve the esthetics on 2,940 acres by reducing flood waters and related sediment and debris.
6. Structural measures which include a 110 foot high earth fill dam with appurtenances, a concrete overflow diversion dam, a 7,354 foot concrete lined diversion canal (covered and landscaped for 700 feet), 9,600 feet of new road and portions of the irrigation distribution system will create some disruption of the natural visual environment.
7. Tranquility of the rural environment will be disrupted by 210,000 recreational visitors annually and by the increase in local population.
8. During an average runoff year, the average annual flow of Teal Creek below the dam will be increased from 38 cfs to 66 cfs and that of the Little Luckiamute River at the mouth will decrease from 366 cfs to 351 cfs.
9. Accelerated population growth will require new roads and service facilities and will necessitate additional development of urban and rural areas changing the character of land use.

B. Quality of Water, Land and Air Resources

1. Deposition of sediment and debris on 450 acres will be reduced to 200 acres.
 2. The areas covered by both overland flood flow and ponded flood water will be reduced.
 3. Land treatment will maintain or improve quality of the land and water by reduction of erosion.
 4. Air, water and noise pollution will be increased temporarily during project construction and the building of additional houses, roads and utility services to meet accelerated population growth. Some of these effects will continue to occur due to increases in numbers of recreationists and residents.
 5. Fire protection measures will minimize the fire hazard potential to plants and animals.
- C. Biological Resources and Selected Ecosystems
1. A cold water habitat will be created for trout fishing to accommodate 22,000 fisherman days of use annually.
 2. An additional 500 acres of water surface for waterfowl resting area and water oriented wildlife habitat will be provided.
 3. Reduced peak flows and release of cool water from the reservoir to maintain natural summer flows in Teal Creek will benefit the trout fishery in both Teal Creek and the Little Luckiamute River.
 4. Six hundred thousand chinook salmon fingerlings reared in the reservoir and released to pass downstream to the ocean will establish a new return run of 500 adult spawners.
 5. The Teal Creek multiple-purpose structure will block passage of anadromous fish to 4 1/4 miles of spawning area of which 2 miles will be inundated by the reservoir. Project mitigation measures to trap and haul around the reservoir will off-set this effect.
 6. About 2.5 miles of live stream fishery will be inundated.
 7. Six hundred thirty-seven acres of wildlife habitat area for limited numbers of birds, small animals, and 30 deer per square mile will be lost and use of 258 acres will be limited by the construction of facilities and concentration of people using the recreational areas.

SELECTED ALTERNATIVE
ENVIRONMENTAL QUALITY ACCOUNT
Little Luckiamute River Watershed Project, Oregon
MEASURES OF BENEFICIAL AND ADVERSE EFFECTS (continued)

D. Historical, Archeological, and Geological

1. No areas of historical, archeological or geologic significance will be affected.

E. Irreversible or Irretrievable Commitments

1. The dam and reservoir pool of the multiple-purpose structure on Teal Creek will require 465 acres of native pasture, cropland, brush and woodland (including 14 rural residences and parts of 3 farms). The 75 acres taken for the dam, spillway, and sediment pool will be permanently irretrievable. The remaining 390 acres will be committed, as a water area, as long as the reservoir is used but can be retrieved for other uses if the reservoir is ever abandoned.
2. The diversion canal will require 20 acres of native pasture, cropland, brush, and woodland. There will be 8 acres permanently committed by construction of the diversion dam and concrete lined canal. The remaining 12 acres will be committed to access right-of-way as long as the canal is used but can be retrieved for other uses if the diversion is abandoned.

3. The following estimated amounts of materials and labor will be committed by installation of the project:

Labor - 322 man-years
Earth and rock fill material - 4,040,000 cubic yards
Concrete - 13,800 cubic yards
Pipe - 124,520 feet
Miscellaneous construction material for 18 pumping plants, water control facilities, and recreational facilities

May 1975

SELECTED ALTERNATIVE
SOCIAL WELL-BEING ACCOUNT

Little Luckiamute River Watershed Project
Oregon

Measure of Effects

I. Real Income Distribution:

- A. Creates 322 man-years of semi-skilled jobs during the project installation period.
- B. Creates 147 man-years of semi-skilled jobs each year during the project evaluation period.
- C. Creates real income benefits of \$912,310 annually. Areas of influence of project benefits are as follows:

Flood prevention and irrigation benefits of \$280,990 will accrue principally to 65 agricultural landowners in the watershed area with distribution by income class as follows:

<u>Income Class 1/</u>	<u>Percent of Beneficiaries in Class 2/</u>
Less than \$4,000	17.0
\$4,000 to \$6,000	11.6
\$6,000 to \$12,000	57.6
Over \$12,000	13.8

Municipal - industrial water supply benefits of \$61,200 and secondary benefits of \$131,730 will accrue to residents of Polk County, principally the Monmouth and Fall City areas, with beneficiaries distributed by income class as follows:

<u>Income Class 1/</u>	<u>Percent of Beneficiaries in Class 2/</u>
Less than \$4,000	18.8
\$4,000 to \$6,000	13.2
\$6,000 to \$12,000	45.3
Over \$12,000	22.7

Measure of Effects

Recreation benefits of \$398,250 and Fishery enhancement benefits of \$40,140 will accrue to regional beneficiaries with distribution by income class as follows:

<u>Income Class 1/</u>	<u>Percent of Beneficiaries in Class 2/</u>
Less than \$4,000	14.1
\$4,000 to \$6,000	10.6
\$6,000 to \$12,000	43.2
Over \$12,000	32.1

D. Creates local costs of \$345,610 annually to be borne as follows:

Flood prevention and irrigation costs will be paid by the landowners benefiting with distribution by income class as follows:

<u>Income Class 1/</u>	<u>Percent of Contributors in Class 2/</u>
Less than \$4,000	17.
\$4,000 to \$6,000	11.6
\$6,000 to \$12,000	57.6
Over \$12,000	13.8

Municipal - industrial water costs will be paid by the City of Monmouth and Polk County with funds obtained from water user fees with contributors distributed to income class as follows:

<u>Income Class 1/</u>	<u>Percent of Contributors in Class 2/</u>
Less than \$4,000	18.8
\$4,000 to \$6,000	13.2
\$6,000 to \$12,000	45.3
Over \$12,000	22.7

SELECTED ALTERNATIVE
SOCIAL WELL-BEING ACCOUNT (Continued)
Little Luckiamute River Watershed Project
Oregon

D. Continued

Recreation and Fishery enhancement costs will be paid by Polk County with funds raised from county-wide advalorem property tax, with some contribution from fishery management agencies and from recreation user fees. Distribution of contributors by income class will be as follows:

<u>Income Class</u> <u>1/</u>	<u>Percent of Contributors in Class</u> <u>2/</u>
Less than \$4,000	17.8
\$4,000 to \$6,000	12.6
\$6,000 to \$12,000	38.1
Over \$12,000	31.5

II. Life, Health, and Safety:

A. The project will provide flood protection for at least the flood event which occurs on the average of once in each two years in the 2,940 acre rural agricultural area. Depth and duration of flooding will be reduced which will decrease safety hazards at road crossings and reduce health hazards which result from prolonged flood water ponding.

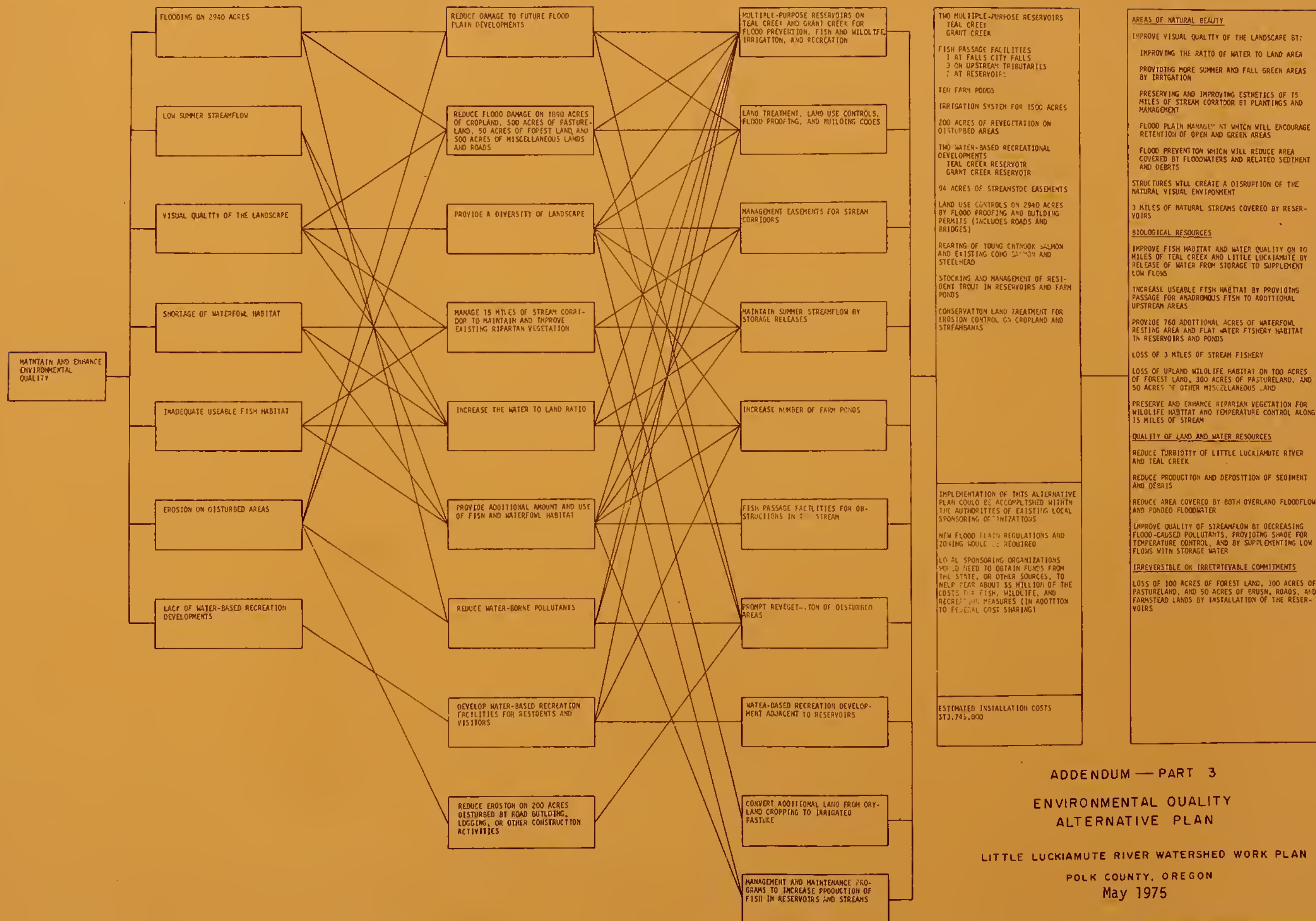
1/ Annual net family income

2/ Source of Data: 1970 Census of Population

OBJECTIVE

ENVIRONMENTAL
PROBLEMSCOMPONENT
NEEDS

OPPORTUNITIES

PLAN
ELEMENTSENVIRONMENTAL
EFFECTS

ADDENDUM — PART 3

ENVIRONMENTAL QUALITY
ALTERNATIVE PLAN

LITTLE LUCKIAMUTE RIVER WATERSHED WORK PLAN

POLK COUNTY, OREGON

May 1975

USDA Soil Conservation Service
Final Environmental Impact Statement

FOR THE

Little Luckiamute River Watershed
Work Plan

Polk County, Oregon

May 1975

L I T T L E L U C K I A M U T E R I V E R
W A T E R S H E D P R O J E C T

Polk County, Oregon

F I N A L E N V I R O N M E N T A L I M P A C T
S T A T E M E N T

James W. Mitchell
State Conservationist
Soil Conservation Service

Sponsoring Local Organizations

Polk Soil and Water Conservation District
Rt. 1, Box 247, Willamina, OR 97396

Little Luckiamute Improvement District
Rt. 2, Box 143, Dallas, OR 97338

Polk County
Room 12, Polk County Courthouse, Dallas, OR 97338

City of Monmouth
City Hall, Monmouth, OR 97361

May 1975

PREPARED BY:

UNITED STATES DEPARTMENT OF AGRICULTURE

Soil Conservation Service

1220 S.W. Third-16th Floor

Portland, Oregon 97204

USDA ENVIRONMENTAL IMPACT STATEMENT

LITTLE LUCKIAMUTE RIVER WATERSHED PROJECT Polk County, Oregon

Prepared in Accordance with
Sec. 102 (2)(C) of P.L. 91-190

S U M M A R Y

- I Final
- II Soil Conservation Service
- III Administrative
- IV Project purposes and action:

This statement describes a watershed project to be carried out by sponsoring local organizations with Federal assistance under provisions of Public Law 566 in accordance with a work plan for the Little Luckiamute River Watershed, Polk County, Oregon. The plan proposes installation of treatment measures for land stabilization and water management and structural measures including a multiple purpose reservoir, a distribution system, a diversion system and recreational facilities to accomplish project purposes which include land treatment, flood prevention, irrigation, public recreation, fishery enhancement, and municipal and industrial water supply.

V Summary of environmental impacts:

1. Watershed plant communities and hydrologic conditions will be maintained or improved by land treatment measures on approximately 51,770 acres; 2,940 acres realize flood relief, and 4,100 acres of cropland will receive irrigation water.
2. The Teal Creek Reservoir, with a 440 acre surface, will provide 3,875 acre feet of M & I. and 6,216 acre feet of irrigation water, 420,000 visitor days annually of water based recreation, and a permanent new anadromous fish run creating an annual commercial harvest of 31,500 pounds and 3,750 angler days of sport fishing for chinook salmon.
3. The project will change the economy and development pattern of the area. Farm incomes will be enhanced. Annual farm employment will increase by 63 man-years, and extensive additional expenditures for farm supplies, equipment, and labor will create new economic activity. Supporting business for both agricultural and recreational activities will increase.

4. The project will result in additional development of urban and rural areas changing the character of land use and will require service facilities related to increasing population.
5. Teal Creek Dam will block passage of anadromous fish and inundate 2 miles of spawning area. Seven hundred acres of land will be used or temporarily disturbed, and 340 acres of that total will be permanently inundated.
6. Land use changes and added population pressures in both the reservoir area and the surrounding countryside will change the living conditions for the local people; and also will alter habitat conditions of wildlife, favoring some species and adversely affecting others.
7. Land right acquisition will displace 14 families, including 45 people and 3 farm operations.
8. During construction there will be:
 - Increased turbidity in streams downstream from construction sites.
 - Increased noise from construction equipment.
 - Increased air pollution in the project area.
 - Increased activity in the project area.
 - Increased traffic in and to the project area.

VI Alternatives considered:

Primary alternatives considered were three dams singly and in combinations, dams and channel improvement, channel improvement alone, different sizes of reservoirs, conservation land treatment alone and in combination with structural measures, flood zoning, land purchase, flood proofing, and no project action.

VII Written comment on this draft statement were received from the following agencies, organizations, and individuals:

Federal Agencies:

Environmental Protection Agency
Department of Transportation
Department of Interior
Advisory Council on Historic Preservation
Department of the Army

State Agencies:

State Engineer
Soil & Water Conservation Commission
Department of Environmental Quality
Fish Commission
Wildlife Commission
Forestry Department

Organizations:

Oregon Environmental Council
Federation of Western Outdoor Clubs
Sierra Club
Monmouth-Independence Chamber of Commerce
Falls City Comprehensive Planning Committee

Individuals:

Eva Burbank	Mr. & Mrs. Ross Murphy
Leslie E. & Larry E. Davis	Mrs. Selma Parker
Mrs. Vert Ellis	John Qualey
Ida M. Estelle	Kaye Richardson
Mr. & Mrs. Robert A Grenier	Crystal Rogers
W. C. Hatch	William A. Schuerman
Edward Headrick	Larry R. Scofield
Lladona H. Kallestad	Pauline Scott
Judith L. Koziseh	Florence Spady
Joseph & Marylou Matteo	Norman W. & Phyllis G. Wilson
Hunter McConnell, Jr.	

VIII Draft statement transmitted to CEQ on October 18, 1974.
Draft statement received by CEQ on October 22, 1974.

USDA Soil Conservation Service

Final Environmental Impact Statement

FOR

LITTLE LUCKIAMUTE RIVER WATERSHED PROJECT

Polk County, Oregon

**PROJECT IDENTIFICATION
AND ENVIRONMENTAL SETTING**

AUTHORITY

Installation of this project constitutes an administrative action. Federal assistance will be provided under authority of P.L. 83-566, 83rd Congress 68 Stat. 666, as amended.

SPONSORING LOCAL ORGANIZATIONS

Polk Soil and Water Conservation District
Little Luckiamute Improvement District
Polk County
City of Monmouth

PROJECT PURPOSES^{1/}

The objectives of the Little Luckiamute River Watershed Project are to provide, through a multiple-purpose project development, a combination of land stabilization, flood prevention, recreation, fish and wildlife, municipal and industrial water supply, and irrigation benefits.

The project will meet the objectives desired by the local sponsors which can be included within the framework of Public Law 566. The land treatment and structural measures selected for inclusion in the work plan are those that meet the project objectives at the lowest annual cost. Project measures are planned to provide conditions for more intensive and diversified land use and to assist in the development and stabilization of the area economy. The land treatment and structural project measures are also planned for the protection, preservation, and enhancement of the environment of the area.

The objectives to be met by this project have been agreed to by both the sponsors and the Service as being adequate to provide the level of protection or development desired for each project purpose.

Consideration was given to all other water resource plans existing or being planned for this watershed and the adjacent areas to assure that elements of this plan will be compatible with full development of the entire region.

The fire protection objectives are to minimize the potential fire hazard as much as possible. Steps to be taken are preseason fire prevention planning, the use of modern equipment and the placement of high use recreation areas away from hazardous locations.

The flood prevention measures are to achieve the objectives of providing the maximum justifiable level of flood protection along the Little Luckiamute River flood plain on 2,940 acres not affected by backwater from the Luckiamute River. Also a related purpose is to preserve the natural beauty, esthetic value, and the fish and wildlife habitat of the Little Luckiamute River.

The recreation objectives are to provide high quality, water-based recreational areas, including installation of high intensity developments to help meet a rapidly increasing demand. Measures will be included to assist in meeting both local and regional needs.

Objectives for development of municipal and industrial water supplies are to provide high quality supplemental water to help meet the immediate water supply needs for the City of Monmouth and the long term water needs of the watershed and adjacent areas in Polk County. Monmouth's objective is for storage of 1,000 acres feet, and Polk County's objective is for storage of 2,875 acre feet.

The project irrigation objective is to improve crop production and net farm income by providing an adequate and reliable water supply to irrigate approximately 4,100 acres of cropland nearly all of which is now producing dryland crops.

Project fish and wildlife objectives are to enhance the fishery resources of the watershed and the salmon fishery of the Willamette and Columbia Rivers.

PLANNED PROJECT

LAND TREATMENT MEASURES

Land treatment measures in the plan are those measures needed to provide watershed protection, land improvements, and the level of agricultural water management necessary to obtain total project benefits. All project land treatment will be installed on non-Federal land.

Measures to be installed on 7,470 acres of **grassland** and cropland include practices to reduce erosion, to provide efficient distribution and application of irrigation water, and for the orderly removal of excess water. Practices including drainage mains and laterals and tile drains will be used singly or in combinations. Practices such as irrigation sprinkler systems will be combined with irrigation water management to obtain efficient on-farm water application. Other practices or combinations of practices will include conservation cropping systems with cover crops, crop residue use, and pasture and hayland plantings.

Land treatment measures, to be installed for the benefit of 1,740 acres of forest land, include measures to provide protective vegetative cover and to improve the productive capacity of these lands. Practices such as tree plantings, and cultural practices to maintain these plantings, will be installed on about 200 acres of land where logging, construction, fires, or excessive grazing have depleted ground cover. Accelerated fire protection to benefit 43,160 acres, will be implemented with emphasis where increased use is expected. The State Department of Forestry will provide the technical assistance necessary for these forest land practices.

Technical assistance will be provided by the Soil Conservation Service using technical guides prepared for the application of practices in the Soil and Water Conservation District for the planning and application of the specific practices or combination of practices needed on other than forest land.

Soil surveys have been completed on 5,000 acres, which include nearly all of the benefit area. An additional area of approximately 47,000 acres will be surveyed prior to installation of project measures. The surveys will be made by use of on-going program funds used to assist the Soil and Water Conservation District.

STRUCTURAL MEASURES

Teal Creek Reservoir

The Teal Creek Reservoir will be a multi-purpose structure for flood prevention, irrigation, municipal and industrial water supply, fishery enhancement and recreation. The damsite is on Teal Creek about 1 mile upstream from its confluence with Little Luckiamute River and about 3 miles upstream from State Highway 223 (Kings Valley Highway). This structure will control 9.83 square miles of the Teal Creek drainage and will provide storage and regulation for the diversion of flows from 30.34 square miles of the Little Luckiamute River.

The dam will be a 110 foot high, modified homogeneous, earth fill with a vertical drain in the downstream section. The dam will have a top width of 28 feet, a top length of 3,300 feet, and a total embankment volume of 4,040,000 cubic yards. The upstream side slopes will be 4-1/2:1, and the downstream side slopes 3-1/2:1. Consideration will be given to berms during the final design of the embankment.

The embankment foundation consists of gently downstream dipping thin bedded sandstone and siltstone of the Yamhill Formation. The permeability of this unit is very low due to the significant tuff content and fine grained nature of these sediments. No serious stability hazards are anticipated, and since these sediments have been extensively preloaded the settlement factor should be negligible.

Immediately overlying these sediments in the flood plain section are 6 to 8 feet of pebbly sand and gravel. The settlement factor of this material is low, but the permeability is significant. A well developed soil profile of 8 to 12 feet of clay and clayey silt overlies the gravels and extends up the right abutment and the lower left abutment. These uppermost two units will be cut off by a core trench which will extend from 5 to 10 feet into the underlying sedimentary formation.

Construction materials for the embankment will be obtained from within the reservoir basin. Riprap rock is available from a sill of gabbro extending along the upper right reservoir abutment.

At the crest of the emergency spillway, the capacity will be 25,000 acre-feet with a surface area of 440 acres. At the crest of the principal spillway the reservoir capacity will be 16,200 acre-feet with a surface area of 360 acres. The 8,800 acre-feet of storage between the principal and emergency spillway crests will be jointly used for irrigation and **municipal** and industrial water supply storage and flood prevention. Of the 8,800 acre-feet jointly used, 6,216 acre-feet are for irrigation and 2,584 acre-feet are for municipal and industrial water supply. Both amounts include evaporation losses assigned to the purpose.

In addition to the 8,800 acre-feet of joint use storage, the reservoir will have 16,200 acre feet of storage capacity with 11,528 for recreation, 3000 for fishery enhancement, 1,291 for M & I, and 381 for sediment storage.

Of the 11,528 acre-feet of capacity provided for recreation, 50 acre-feet are subject to withdrawal to satisfy the irrigation needs of the recreation development.

The permanent fish enhancement and recreation pool will have a surface area of 340 acres. This level will occur after the seepage and evaporation has taken place and will be the lowest pool level.

The emergency spillway will be a box-inlet reinforced concrete structure located in the left abutment. The box-inlet, conduit, and the energy dissipating outlet structure will be located on an undisturbed earth foundation. The capacity of the emergency spillway will be 4,300 cfs (cubic feet per second) which will pass the freeboard hydrograph storm. The spillway will operate only when flows exceed the 1 percent chance flood event or after the reservoir is full for passage of downstream migrant fish.

The principal spillway will be incorporated into the box-inlet and will consist of two levels of orifices on the front of the box-inlet. The orifices will be gated for operation of the joint use storage capacity and for fish passage in the early spring. The flood regulation gates and spillway will be designed to facilitate the downstream migration of young anadromous fish from the reservoir. The principal spillway will operate in two stages with the low stage having a maximum outflow of 245 cfs and the high stage having a maximum outflow of 1,900 cfs.

An additional outlet in the left abutment will be used to release water for irrigation, municipal and industrial water, downstream rights, and for the fish handling facilities. This outlet will have a capacity of 190 cfs and can be used to drain the reservoir to the level of the sediment pool to meet state permit requirements. The outlet pipe will be encased in concrete, have upstream and downstream control valves.

The box inlet spillway, outlet structure, and outlet control will have fencing and handrails where necessary for protection of the facilities, the operator and the general public. The drawdown areas will be shaped for drainage to permit continued recreational access to the shoreline and for the control of mosquitos.

Measuring devices will be installed with the outlet structure to provide for **accurate** regulation of water released. Stage recorders will be installed above and below the reservoir to record inflow and reservoir releases to meet requirements for streamflow maintenance and prior water rights.

Approximately 2.8 miles of county road now located in the reservoir will be abandoned. Approximately 1.8 miles of new road will be constructed to provide access to the area served by the abandoned roads. Also included will be the relocation of about 2 miles of waterline for the City of Monmouth and Falls City and about 1 mile of powerlines.

A fish trapping and holding facility, for mitigation of anadromous fish, will be built adjacent to Teal Creek immediately below the dam. This facility will be located on the south side of the outlet works and will consist of a holding pond with necessary controls, access, protective measures for handling of the fish and a utility building. The entire area will be fenced to prevent vandalism and theft.

The reservoir will be cleared of trees and brush up to the crest of the emergency spillway. Some small groupings of trees may be left for wildlife habitat and wave protection where they will not interfere with other planned operations.

Approximately 600 acres will be needed for the dam and reservoir, including the right-of-way strip around the reservoir to allow unimpaired public access and use. The land is now all in private ownership.

Land rights acquisition will displace approximately 14 families. Three farm operations which will be displaced are included in this number. There will be about 45 people displaced by construction of this reservoir.

Diversion System

A combination diversion dam across Little Luckiamute River and 7,354 feet of concrete lined diversion canal will divert water from the Little Luckiamute River into the Teal Creek Reservoir for flood protection and for filling the joint use storage capacity in April and May for irrigation and municipal and industrial water supply purposes.

Diversion Dam:

There will be a concrete overflow diversion dam with a straight drop inlet spillway constructed across the Little Luckiamute River about 1,000 feet upstream from Falls City. The dam will have a system of gated orifices on the front of the spillway for the regulation of the amount of water that is diverted into the Teal Creek Reservoir via the diversion canal. The diversion dam will divert flows from 30.34 square miles of Little Luckiamute River.

The amount of water diverted will vary according to the season of the year. During the flood season, October through March, 500 cfs will by-pass through the diversion dam down Little Luckiamute before any flow is diverted into the canal. During these months of high runoff and flood flows a maximum of 1,200 cfs will be diverted into the canal.

During the months of April and May the orifices will be regulated to divert water to the Teal Creek Reservoir for irrigation, municipal, and industrial water supply, and for passage of downstream migrant salmon and steelhead. The orifices will be regulated from April 1-15 to pass 25 cfs down Little Luckiamute before any flow is diverted into the canal. From April 16-May 31 the orifices will be regulated to pass 50 cfs or the natural flow down Little Luckiamute, unless a larger diversion is needed to meet storage requirements and the fishery agencies agree to the variation.

During the months of June, July, August, and September the orifices will be regulated so that no flow will be diverted from the Little Luckiamute River.

Diversion Canal:

The diversion canal will be a 7,354 foot long concrete lined canal from the diversion dam on the Little Luckiamute River, above Falls City, to the Teal Creek Reservoir.

At the point of diversion a maximum of 2,000 cfs will be diverted to a point 320 feet downstream from the diversion inlet; 800 cfs of this flow will be returned to Little Luckiamute River by means of a side weir and a flume. This will permit the diversion of 1,200 cfs into Teal Creek Reservoir during flood events.

The diversion canal will cross the Little Luckiamute River about 600 feet downstream from the diversion dam and will be supported by concrete piers. Portions of the canal, through Falls City and the ridge between Teal Creek and the Little Luckiamute River, will be constructed as a covered box culvert. This will eliminate deep, open cut through the ridge, reduce safety hazards, and provide a landscaped area that can be utilized for recreational use. The canal will cross two streets, one alley, the Valsetz to Falls City highway, a county road, and a driveway. Culverts will be installed at all crossings.

Foundation material along the alignment of diversion canal will consist of the following units: The diversion structure and initial canal section underlain by the gabbro sill forming the lip of Falls City falls; the middle section underlain by alluvial silts and gravels and weathered sediments of the Yamhill Formation; the lower section including the cut through Oakhurst Ridge underlain by weathered Yamhill sediments. No unusual excavation problems are anticipated along this alignment.

It will be necessary to fence the diversion canal to prevent deer and other animals from entering and becoming trapped in the canal. The number and location of animal crossings will be determined with the consultation and approval of the wildlife management agencies.

Irrigation Water Distribution System

The irrigation water distribution system will supply water under pressure to 4,100 acres of cropland. The pipeline system will include 124,520 feet of pipe ranging in size from 4 to 39 inches. A metered outlet will be provided for each farm unit.

A regulating reservoir, located approximately at elevation 470 (mean sea level), and 18 pumping plants will be included in the distribution system to provide adequate pressure at all delivery points for sprinkler operation. The larger pumps will be multiple stage turbines. Smaller pumps will be in-line centrifugal.

All the pumps will be installed in pump houses along with the necessary controls and fencing for protection of the equipment, the operator, and the general public. Fencing will also be installed around the regulating reservoir.

Recreational Facilities

The recreation facility on Teal Creek Reservoir consists of five units designated for planning purposes as Falls City Meadow, Teal Crest Park, Timber Hills, King Ranch, and Kilowan Parkway, with an approximate area of 258 acres. This facility is designed for an annual use of 210,000 visitor days with a peak day use of 6,600. The area to be developed is now private land which will be acquired by the local sponsoring organization in fee-simple title prior to the installation of the facility. The units are located to provide the desired esthetic values, accessibility, and most advantageous use of the reservoir. The right-of-way to be acquired includes a 100-foot wide strip around the reservoir.

The areas will be designed for intensive day use facilities and overnight camping. Arrangements for use by the physically handicapped will be provided. The facility will include picnic areas, camping areas, swimming beaches with bathhouses, swimming docks, protective log booms, playground areas, boat launching, and docking areas. A combination of asphalt and sod parking areas will provide space for 825 cars and car-boat-trailer combinations.

Sanitary facilities will include flush type toilets, with septic tanks. All septic tank effluent will be pumped to drain fields outside of the reservoir drainage. The system will be designed to meet the requirements of Public Health Agencies. Water quality will be protected further by boating regulations, including waste disposal established in cooperation with the Oregon State Marine Board. Solid wastes from the recreational development will be collected, hauled from the area, and disposed of in a manner and location approved by State authorities.

Existing state and county roads provide adequate public access to the recreation areas and will connect to a new two-lane internal road system. Traffic control, visitor assistance, and safety features will be supervised by the recreation sponsor. The design layout of the recreation areas will allow for the future addition of facilities within these areas efficiently, while maintaining the esthetic values of the site.

The stream system draining into the reservoir will be treated for the removal of undesirable fish species prior to the establishment of game fish by the Oregon State Wildlife Commission. Future treatment will be applied as periodically required to protect the fishery management program.

The recreation areas will be fenced to protect them from improper entry and to protect adjacent property from trespass.

OPERATION, MAINTENANCE, AND REPLACEMENT

Land Treatment

Land treatment measures will be maintained with costs borne by the landowner or operator. Technical assistance will be provided by the Soil Conservation Service, the Forest Service, and the Oregon State Forestry Department through the going programs of assistance to the Soil and Water Conservation Districts.

Structural Measures

The operation and maintenance of the recreation facilities on the Teal Creek reservoir will be the responsibility of Polk County. The operation and maintenance of all other structural measures will be the responsibility of the Little Luckiamute Improvement District.

Inspections of works of improvement will be made annually and after every major flood for the first three years of operation by representatives of the Soil Conservation Service and the sponsors. The inspections will be made by representatives of the sponsors after the third year. Written inspection reports will be prepared by the sponsors and made available to the Soil Conservation Service at any time.

The Service may make inspections at any time to be assured that proper operation and maintenance is being carried out.

An establishment period of three years is provided for all structural works of improvement and associated vegetative cover. During this period the Soil Conservation Service may use PL-566 funds to cost share on any repairs or other work resulting from unknown conditions or deficiencies caused during construction. The cost of repairs will be cost shared in the same ratio as the original structure.

Specific operation and maintenance agreements between the sponsors and the Soil Conservation Service will be executed before the land rights agreement or a project agreement is executed.

Operation and maintenance of the structural measures shall conform to all appropriate local, State, and Federal regulation. Representatives of the Federal, State, and local governments shall have free access at all times to the structural measures for official activities.

Operation of the structures shall include, but not be limited

to:

1. Operating the Teal Creek Reservoir for flood prevention, irrigation, recreation, fish and wildlife, and municipal water supply. The operation includes programming the reservoir releases to obtain flood prevention and fish benefits, to minimize downstream bank erosion, and to fill the storage capacity. The storage capacity to be jointly used for water supply and flood prevention will be left vacant until the hazard of major floods has passed and will then be filled according to a specific plan which will be detailed in the O&M agreement entered into between the District and the Service prior to construction of the reservoir. The stored waters will not be withdrawn below the recreation and fish pool elevation 369.5 msl, except for the withdrawal of 50 acre-feet to satisfy the landscaping and vegetative needs of the recreation development. The local organization is responsible for notifying the Soil Conservation Service through the State Conservationist whenever the reservoir is operated differently than the specified ranges, and jointly with the Service determine if there is a continuing need to do so.
2. Operating pumps and controls to regulate flows in the distribution systems to meet water supply needs.
3. Monitor water quality and take actions to prevent pollution.
4. Operating the recreation facilities associated with the Teal Creek Reservoir. The recreation development, including use of the reservoir area and associated recreational facilities will be operated by Polk County for use of the general public.

Operation of these facilities will include necessary custodial, policing, sanitation, pollution control, and safety services. The operation of the reservoir for recreation will be planned in consultation with the Oregon State Wildlife Commission and the Oregon State Marine Board to assure compatibility of fishing and boating with other proposed uses. Power boat regulations will be exercised when conditions require controls. Disposal of waste materials from boats will be prohibited.

Polk County will enter into an operation and maintenance agreement with the Little Luckiamute Improvement District for operation of the reservoir for recreational use prior to letting a construction contract. The operation of the reservoir will be coordinated with the Oregon State Department of Forestry to meet fire protection needs of the area.

Admission and use fees may be charged for portions of the recreational development. The schedule of admission and use fees together with other requirements for operation and maintenance of the recreation facilities must be mutually acceptable to the sponsors and the Service and will be set forth in the operation and maintenance agreement. Prior approval by the Farmers Home Administration must also be obtained if watershed loan funds for the recreation facilities are expected to be repaid from project revenue.

Polk County and the Little Luckiamute Improvement District will enter into an agreement with the Oregon State Wildlife Commission for operation and maintenance of the reservoir fishery, and with the Fish Commission of Oregon for operation of the anadromous fish handling facilities.

Polk County will consult with state and local public health agencies on operation plans for the recreational facilities and will be responsible for operating them to meet required health standards.

5. Operation of anadromous fish mitigation facilities at Teal Creek Reservoir will include all functions necessary to trap and hold adult fish and to handle Willamette River cutthroat trout which may use Teal Creek in the fall and winter months. Anadromous fish will either be passed over the dam or taken to an existing hatchery to collect eggs, and to raise the young fish to release size. It will also include operating the principal spillway and the emergency spillway to provide the water for egress of young anadromous fish from the reservoir in April, May, and June. The Little Luckiamute Improvement District will be responsible for operation of mitigation facilities. The District expects to contract with the State fishery agencies for actual performance of the work.

Maintenance of facilities shall include, but not be limited to:

1. Keeping all structures in serviceable condition by making replacements and repairs as needed.
2. Maintaining adequate capacity in natural and constructed channels by removal of debris jams by methods and at locations to minimize damage to stream substrates.

3. Checking the pipelines and appurtenances after each irrigation season and making necessary repairs including replacement of eroded earth cover.
4. Removal of sediment deposition from the diversion canal and from water control and pump structures to maintain required capacities.
5. Maintaining vegetative cover and rock riprap where needed.
6. Maintaining the recreational facilities. Maintenance will include keeping all facilities including roads, parking areas, and boat launching ramps in serviceable condition by making repairs and replacements as needed.
7. Maintenance of the reservoir fishery by periodic restocking and chemical treatment as necessary.
8. Maintenance of the fish facilities as required through agreements with the Fish Commission of Oregon.

Estimated average annual operation, maintenance, and replacement cost is \$127,510.

Operation, maintenance, and replacement costs will be paid by the responsible local sponsoring organization with funds obtained by assessments based on flood prevention benefits, recreation user fees, and from contracts for the purchase of irrigation or municipal-industrial water. The sponsors will also seek financial assistance from State of Oregon agencies on operation and maintenance items in their areas of responsibility.

Each operation and maintenance agreement will include a reference to the Soil Conservation Service State Operation and Maintenance Handbook and a statement that the retention or disposal of real and personal property acquired, in whole or part, with PL566 funds.

Provision will be included for monitoring and control of noise.

PROTECTION OF ENVIRONMENTAL QUALITY DURING INSTALLATION

Construction contracts will include measures to minimize soil erosion, water, air, and noise pollution. Disturbed areas subject to erosion will be vegetated or mulched. Water pollution will be minimized by measures such as sediment basins to treat project water that is muddied by construction, temporary bridges and culverts where construction roads cross the stream, diversion of water, storage tanks for disposal of waste lubricants and chemicals, and sanitary facilities. Local and State laws pertaining to burning will be adhered to so as to minimize air pollution. Dust on the construction site and access roads will be suppressed by sprinkling. Noise from construction will principally affect those involved in construction because of the remoteness of the primary construction areas. Measures such as suppression of equipment noise and limiting construction to daylight hours will be used where construction is near residences.

Construction contracts will make provisions for actions to be taken should significant historical or archeological values be encountered. Provisions will include instructions to all construction personnel to report such findings and to promptly avoid unnecessary destruction of artifacts and features. Provisions will also include the suspension of operations which would damage the findings until the State Historic Preservation officer or the National Park System Archeological Service Center (as appropriate) has been notified and a decision on needed action obtained.

Handling and disposal of waste materials, such as petroleum products, chemicals, sewage, and earth spoil or vegetative residues, will be monitored and will conform to all appropriate regulations.

C O S T S

Summary of Installation Costs (\$)

	<u>PL-566 Funds</u>	<u>Other Funds</u>	<u>Total</u>
Land Treatment	76,606	830,682	907,288
Structures	<u>7,106,380</u>	<u>4,035,330</u>	<u>11,141,710</u>
Total Project	7,182,986	4,866,012	12,048,998

Average annual costs, benefits, and a comparison of benefits and costs are shown in Appendix of this statement.

ENVIRONMENTAL SETTING

GENERAL

The Little Luckiamute River Watershed, with a drainage area of 52,640 acres (82.3 square miles) is located in central Polk County in northwestern Oregon, on the western side of the Willamette River. The City of Falls City is located within the watershed; the City of Dallas is within 2 miles of the northern boundary; the City of Monmouth is about 4 miles to the east; and Salem, the State Capitol, is about 15 miles to the east. (See Appendix B - project map)

The watershed is about 18 miles long and 7 miles wide at its extremes. Major tributaries of the Little Luckiamute River include Berry Creek, Waymire Creek, Teal Creek, Grant Creek, Fern Creek and Cooper Hollow. The Little Luckiamute River originates near Fanno Peak in the Coast Range Mountains and generally flows in the southwesterly direction until it joins with the Luckiamute River. All the main tributaries originate in higher elevation, predominately forested areas.

Watershed elevations range from approximately 3,300 feet on Fanno Peak to about 200 feet on the Little Luckiamute flood plain near the confluence with the Luckiamute River. The topography is mountainous west of Falls City and generally hilly to the east with nearly level terraces and flood plains along the lower river.

PHYSICAL RESOURCES

Climate ^{2/}

The watershed has a temperate, maritime climate characterized by relatively wet winters and dry summers. Precipitation is mostly in the form of rain from general storms originating over the Pacific Ocean.

High intensity rains from thunder storms are not common in the area. The mean annual precipitation varies from 150 inches in the upper areas of the watershed to 80 inches in the vicinity of Falls City to 45 inches at the lower end of the watershed. Approximately 80 percent of the total annual precipitation occurs during the months of October through March, while the months of July and August account for only about 2 percent.

The weather station records at Dallas show an average temperature of 65.1 F. for the month of July, an average of 37.5 F. for the month of January, and an average annual temperature of 51.4 F. There is an average growing season of about 186 days.

Water Resources

Surface Water

Most of the streams of the watershed originate in the Coast Range Mountains, which are some of the highest runoff producing areas in the Willamette River Basin.

All the streams have a regular runoff pattern with low flows in the late summer and high flows in the winter months of December, January, and February. The estimated average annual yield of the watershed is 265,000 acre feet.

Rate of Discharge In Average cfs by Months

<u>Month</u>	<u>Teal Creek</u>	<u>Little Luckiamute</u>	
	<u>Above Grant Creek</u>	<u>Above Falls City</u>	<u>At Mouth</u>
January	86	413	856
February	67	312	647
March	65	303	627
April	39	182	377
May	21	99	205
June	10	45	94
July	5	21	44
August	3	13	27
September	3	15	33
October	14	67	139
November	55	256	530
December	86	399	827
	<hr/>	<hr/>	<hr/>
Average Annual	38	177	366

Groundwater

The potential for large scale development of groundwater production from wells is extremely limited within the watershed. The underlying rock formations are predominately marine sediments, the bulk of which are shale and siltstone. These rocks have low permeability and yield water very slowly to wells and springs. Most of the wells that penetrate these rocks yield less than 5 gpm (gallons per minute), and few wells exceed a production of 10 gpm. In many cases where deep penetration has been attempted to increase production, highly mineralized water has been encountered. 3/

Limited development may be obtained from the thin alluvial gravel beds along the lower reaches of the Little Luckiamute River. However, satisfactory development at this source would most probably require a manifold development of several shallow wells.

Water Quality

Analysis of water samples taken by the Oregon State Department of Environmental Quality from Teal Creek and the Little Luckiamute River above Falls City shows that the water is of a high quality and very satisfactory for irrigation, recreation, and municipal and industrial water supply purposes.^{13/} (See Appendix D for sample data.)

Geology

Stratigraphy

The following geologic formations are exposed within the watershed area and are listed in order of their ages, beginning with the oldest: (1) Siletz River Volcanics, composed of basalt flows and minor amounts of tuffaceous sedimentary rocks; (2) Yamhill Formation, a series of marine clayey siltstone and sandstone which includes a basal member of impure limestone locally called the "Dallas Limestone"; (3) Spencer Formation, which is a marine shallow water deposit of tuffaceous or silty sandstone with locally included basalt flows; (4) gabbro and diorite sills and dikes that intrude the older formations within the watershed; (5) recent material including terraces gravels and flood-plain alluvial deposits of gravel, sand, and fines.

Most of the upper watershed, including the Teal Creek Damsite is underlain by the Yamhill sediments or the intrusive gabbro and diorite rocks. The lower watershed is about equally underlain by Yamhill sediments, the Spencer sediments and the recent alluvial deposits. These formations are all overlain by moderate to well developed soil profiles discussed in the following soils section.

Structure

In general the sedimentary rock formations and included intrusions slope gently to the east beneath the watershed with some local folds or crenulations interrupting this regional dip. In the extreme upper watershed this regional trend reverses and the dip is gently to the west. The alluvial and terrace deposits are for the most part level, although the terraces have been elevated several tens of feet in some areas. Faulting is minor and generally confined to the extreme upper watershed area.

Geomorphology

Watershed topography shaped by differential erosion varies from the steep youthful features of the upper elevations to areas of gently rounded late maturity in the eastern third of the watershed. Where streams cut through the sedimentary rock including or overlain by gabbro or diorite, the resistant igneous rocks are undermined causing large scale block sliding. These features are frequent along the Little Luckiamute River between Black Rock and Falls City. Construction of

buildings or other structures on these hazardous areas is necessarily limited. Most of the waterfalls and cascades within the upper watershed are caused by the retreat of streams to a point where they drop over the edge of the igneous sills. This is exemplified by the falls west of Falls City. Much of the water removal problems of the lower Little Luckiamute River area are the result of extreme meandering, oxbows, and other low gradient stream features.

Soils

The soils in this watershed developed under the influence of moderately high winter rainfall and dry summers. They are acid soils. The well-drained types characteristically are reddish in color while the poorly-drained soils are gray to black. The soils of the mountainous and foothill areas of the upper watershed are formed in colluvium weathered from basalt and marine sediments. In the lower watershed, the Luckiamute terrace soils have developed from the older valley alluvial deposits. The flood-plain soils along the present stream channels developed from recent mixed alluvial deposits. The following broad soils groups are based upon similarities of physical characteristics and agronomic adaptation.

Group I - Mountainous Soils

These are areas dominated by well-drained, moderately deep to very deep soils of gently sloping to very steep hills and canyons of the Coast Range. Typically the soils have dark reddish brown silt loam, silty clay loam or clay loam surface soils and dark reddish brown, reddish brown to dark red silty clay loam to clay subsoils. The soils commonly are strongly acid. The water holding capacity is moderate to high. The permeability is moderate to moderately slow.

The soils are used mostly for timber production. Typical soils are Hembre, Klickitat, Honeygrove and Peavine series.

Group II - Foothill Soils

These are areas dominated by well-drained, moderately deep to very deep soils on gently to steeply sloping foothills. They are medium to strongly acid. Typically, the soils have dark reddish brown silt loam to silty clay loam surface soils and reddish brown to dark red silty clay loam to clay soils. They commonly are medium to strongly acid. The water holding capacity is moderate to high. The permeability is moderately slow to slow. These soils are used primarily for woodland production, but the less steep areas are adapted to forages, seed crops, orchards, and caneberries. Typical series are Bellpine, Jory, Nekia, and Willakenzie.

Group III - Bottomland and Terrace Soils

Soils in this group are principally nearly level, very deep poorly drained to well drained, and slightly acid to medium acid soils. Typically these soils have dark greyish brown and dark brown or dark

gray silty clay loam to clay profiles. They have moderate to slow permeability. The soils are productive and can produce high yields of the crops adapted to this area. The dominant soil series are Chehalis, McBee, Waldo and Wapato.

Cover Conditions

Approximately 82 percent of the watershed is forested. Conifers are predominant in the western half, while oak and other hardwoods are common east of Falls City. Most of the upper watershed was initially logged during the period 1905-1910. Reforestation has been excellent and nearly all areas are presently fully stocked.

There are two major industrial forest land owners in the watershed. These are Willamette Industries with 14,000 acres and the Boise Cascade Corporation with 3,650 acres. Both have undertaken an extensive thinning program in these second-growth stands. Present road construction and thinning operations began about 1966. Additional areas were opened up in 1969. Road construction by these corporate ownerships is nearly completed. Watershed protection measures including ditching, culverts, grading, and cut and fill stabilization are necessary to minimize erosion. Special falling and yarding practices are also employed during the harvest operations.

The thinnings are designed to improve the young growth stands from a silvicultural standpoint. Approximately one half of the basal area is removed with the first thinning and 10 to 20 percent thereafter, leaving a well-spaced stand for vigorous growth.

A transitional area exists between the coniferous forests and the cropland. This area is primarily hardwood forest and accounts for about 4 percent of the watershed area. These woodlands have been periodically cut and are used for grazing and woodlot purposes. Regrowth has occurred, and good cover exists.

Eleven percent of the watershed is in cropland, located primarily in the main valley along the river. Pasture and grain are the primary crops in the upper part of this valley and along the tributaries. The main valley also grows pasture and grain but in addition produces many acres of row crops and specialty seed and oil crops. Cover crops are used on the row crop areas to prevent erosion during the winter. Cover conditions on most of the watershed's cropland is very good.

The remaining 3 percent of the watershed is in other uses, including farmsteads, roads, and the town of Falls City.

E C O N O M I C R E S O U R C E S

The present economy of the Little Luckiamute Watershed is based on lumbering and agriculture. Recreational activities, including fishing, hunting, summer camps, picnicking, and overnight camping have a small but increasing impact on the general area.

There are no major industrial or commercial enterprises, other than timber, in the watershed. The cleared land is used for agriculture.

Falls City, with a population of about 800, is the only urban area in the watershed. It has a high proportion of retired people and people living on limited incomes. 4/

Approximately 93 percent of the watershed land base is privately owned and 7 percent is county, state and Federal land. Nearly all of the public land is in the forest areas of the upper watershed or in public service areas. 4/

Approximately 58 percent of the 43,160 acres of forest land is owned by medium or small owners (5,000 acres or less--mostly under 1,000), and 36 percent is owned by large timber companies. The remaining 6 percent is federally owned and managed, primarily by the Bureau of Land Management.

There are 2 small limestone quarries about 3 miles northeast of Falls City and some possibility of manganese deposits in the upper watershed (deposits found in adjacent areas).

Coniferous forest covers all of the upper watershed. Approximately 43,160 acres, or 82 percent of the watershed area, are devoted to forest uses, including timber production, fish and wildlife habitat, and recreation; and a portion of the area is serving as an Experimental Forest and outdoor laboratory for Oregon State University.



Teal Creek drainage basin is typical of the mountainous, forested upland areas.

Logging operations have been conducted over a long period of time, and the harvest of old growth and second growth timber is expected to continue on a sustained yield basis. The City of Dallas has a core mill, large planing mill, and several small saw mills.

Most of the agricultural land is located in the valley bottom along the Little Luckiamute River. There are approximately 60 operating farms or ranches in the watershed. About 25 percent are part-time operations. The bulk of the land is in 20 or 30 larger full-time farm operations, using both owned and leased land. In addition to the above farms, there are numerous small rural residential acreages.

Most of the farmsteads are located on the scarp break where the steep forest lands are adjacent to flatter cultivated fields. There is a highway paralleling the valley bottom edge on both sides of the river, and most properties run from the road to the river or tributary. The lower half of most of these farms flood, and the entire valley bottom area is within the irrigation evaluation unit.

The major crops grown on the Little Luckiamute flood plain and irrigation service areas are as follows:

<u>Land Use</u>	<u>Percent of Area</u>
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Dryland:

Native Pasture	9
Improved Pasture	18
Spring Barley	2
Winter Wheat	53
Idle	2
Grass seed	1

Irrigated:

Irrigated Pasture	6
Sweet Corn	4
Bush Beans	1
Mint	1
Red Clover	3



Forage harvest on presently irrigated lands. SCS PHOTO 7-2939-11

Pasture and grain are the primary crops in the upper reaches of the valley and in the adjacent stringer valleys. Farms in this upper area average about 100 acres in size and have an average yearly gross income of \$3,000-\$5,000. Many acres of row crops and specialty crops are raised on the large commercial farms in the lower valley. These farms average about 500 acres and have annual gross incomes of \$65,000 or more.

Significant amounts of the national production of some specialty and row crops are grown in the Willamette Valley. Little Luckiamute's production of these crops is expected to increase with the provision of additional irrigation water.

Sale of farm products from this watershed averages about \$800,000 yearly. The nearby Salem area is the market for much of Little Luckiamute's farm products and is also one of the nation's largest food processing areas. Red clover and sugar beet seed are cleaned and prepared for distribution in nearby processing establishments.

Fern Valley, on the northern end of the watershed, has part-time farms operated by people who work in industries in nearby communities. This area is becoming increasingly important as the location of rural residences adjacent to the expanding City of Dallas.

Agricultural land values are related to the productivity of the soil, availability of irrigation water, flood hazard, and ease of cultivation. Values range from \$200 per acre for the steeper hill lands suitable for hay, grain or pasture to in excess of \$500 an acre for intensively cropped irrigated land in the valley bottoms.

Forest land values vary considerably depending on location, accessibility, potential productivity, size of tract, and volume of timber. Heavily cutover land or oak brush stands sell for \$75 to \$100 per acre if purchased for forestry.

Residential growth is affecting land values around Falls City and particularly in Fern Valley, which lies adjacent to the expanding City of Dallas. In these areas, the demand for home sites with acreage is pushing land values for forest land or marginal cropland up to \$500 to \$800 per acre.

Transportation facilities in the Little Luckiamute Watershed are reasonably good. Kings Valley Highway runs southwesterly from Dallas into the Little Luckiamute Valley. An adequate network of all-weather roads services the valley from this highway. The upper watershed is accessible by roads used mostly by logging trucks. Route U.S. 99W, a main north-south highway, goes through Rickreall, a town about 4 miles east of Dallas. Access to the watershed is also available from Route 99W in Monmouth on the east via a state highway. Some additional logging roads will be required in the upper watershed.

Both Dallas on the north and Monmouth to the east of the watershed are served by intercity bus lines.

LAND TREATMENT STATUS

The upper area of this watershed is primarily forested. There are only minor areas of critical erosion (mostly related to recent logging or construction activities) above the project reservoir or the benefit area. The flood plain along Little Luckiamute River above Kings Valley Highway (State Highway 223) is primarily in pasture, and the flood plain below the highway is in cannery crops, grain, pasture, and hay. Land use changes or improvements will continue to be extremely hazardous until flooding is reduced. With flood protection, the flood plain will be more intensively developed for agricultural production.

The watershed is in the Polk SWCD. The District has an active program and will provide the necessary leadership to accomplish the land treatment and related phases of this project.

There are approximately 60 commercial farm ownerships in the watershed, of which 15 are SWCD cooperators. Conservation plans have been developed on six ownerships covering approximately 1 percent of the watershed. About 20 percent of the planned conservation practices have been applied. 5/

Forest management plans have been developed for the two corporate forest ownerships. Both are certified West Coast Tree Farms and comprise over 30 percent of the watershed area. Five other woodland owners have also received technical assistance from the State Forester's Office.

Fire protection of forest land in the watershed is provided primarily by the West Oregon District of the Oregon State Department of Forestry. Buildings and other improvements, generally in the lower portion of the watershed, are protected from fire by the Southwestern Rural Fire District. The record of forest land area burned in this watershed shows that very few fires have occurred in the past and none have spread to any significant acreage. 6/

ARCHAEOLOGICAL, HISTORICAL AND UNIQUE SCENIC RESOURCES

The Little Luckiamute River, upstream from Falls City, is a beautiful river as it cascades over and around rocks in the channel surrounded by vigorous vegetation and the forested background of the steep watershed slopes. The river flows continuously the year around adding to the natural beauty of the area. As the Little Luckiamute flows into Falls City, it plunges in a forty foot waterfall between vertical rock walls. This area is in a majestic natural setting with the tall coniferous trees on the adjacent hillsides, the tree-lined Little Luckiamute River, and the fine mist spray created by the falling water. (The picture on the cover of the plan is the falls in Falls City.)

Five miles upstream from Falls City, the lumber community of Black Rock once flourished. In 1906 Black Rock post office was established. The history of the Willamette Valley Lumber Company began in this community. In 1912 the population was listed as 600. When logging operations slowed down, the population of the community began to dwindle until it was non-existent. In 1960, the Company discontinued railroad operations from Black Rock and closed the book on a method of logging that had persisted for 55 years in the area.

There are no places of significant archeological or historical value listed in the National Register of Historic Places or otherwise known to be present in this watershed project area.

During planning of this project, Oregon State University archeologists, under a contract with the National Park Service, surveyed the project area. Their report is dated February 6, 1974 and includes the following statement: "Archeological surveys found no sites in the Little Luckiamute River project area. The survey team spent 9 man days surveying the project area. No sites were found. All affected land-owners were interviewed; none knew of any archeological sites within the project. The negative information obtained by interviews was supported by the survey. No further work is recommended."

The State Historic Preservation Officer was consulted with during planning of this project. He reported that "there are no properties listed in the National Register of Historic Sites and Buildings nor are there any properties listed in the statewide Inventory of Historic Sites and Buildings located in the project area."

RECREATIONAL RESOURCES

The recreation assets of the watershed and surrounding area lie in the contrasts found within the Willamette Basin. Topography varies from flat rolling terrain to scenic mountain ranges and low rolling hills interspersed with large and small streams. Plant and animal life vary to the same extremes. The Willamette Valley contains only 1/5 of Oregon's land but 2/3 of its people. It has a mild climate and an excellent road network. The population within 50 miles of this watershed is in excess of 300,000 people.

There are presently no reservoir-based recreation facilities available in close proximity to this watershed. 7/ Within the watershed, there are several excellent potential recreation sites which are in a naturally beautiful environmental setting.

FISH AND WILDLIFE RESOURCES

The watershed is inhabited by a variety of wildlife species. Blacktailed deer are found throughout the drainage and provide fair hunting. Some black bear are also present. Upland game include ring-necked pheasants, California and mountain quail, a fair population of migratory band-tailed pigeons, and some blue and ruffed grouse. Waterfowl includes some mallard and wood ducks that are all year residents. Additional mallards and several other species of ducks, along with Canada geese, migrate into the area during late fall and winter. A fair population of silver gray squirrel, cougar, weasel, and bobcat are found in the area. Furbearing animals include beaver, mink, otter, muskrat, nutria, opossum, raccoon, red and grey fox, coyote, and skunk. Some of these animals are trapped for fur. Extensive and diverse populations of non-game birds inhabit the area, many in residence and others coming here each winter. Old-growth coniferous habitat suitable for spotted owl is found west of Falls City and, while none have been observed, they may be present.

Historically, the Little Luckiamute stream system has been inhabited by cutthroat trout which migrate between this system and the Willamette River. West side Willamette Valley streams did not support runs of coho salmon and steelhead because these fish returned from the ocean in the fall and winter months when passage over the Willamette Falls at Oregon City was difficult or impossible. This passage problem has been remedied in recent years, and the fishery agencies have been introducing steelhead trout and salmon into basin streams, including the Little Luckiamute system. Some of these introductions appear to be successful in the Little Luckiamute system. The fishery agencies believe the potential for anadromous fish runs in this system is good.

Rainbow trout have been stocked in the Little Luckiamute system. There are several farm ponds in the area which also contain rainbow trout and warm water fish.

WATER AND RELATED LAND RESOURCE PROBLEMS

FLOODWATER DAMAGE

Flooding is the most significant problem in the watershed. The present Little Luckiamute River channel lacks sufficient capacity to contain or remove the excess runoff from the storms experienced annually in the watershed. Flooding is directly related to the seasonal precipitation pattern and frequently occurs two or more times during the period November through March. Seventy-five percent of the past floods have occurred in December, January, and February with the remaining 25 percent in November, March, and April. Even though high streamflows will ordinarily subside within 2 to 3 days, floodwaters will remain standing in some areas for several days. 8/

All flood damages are to agricultural areas. The Little Luckiamute passes through Falls City in a well incised channel and causes no urban area flooding.

An estimated 2,940 acres are now flooded with a frequency of once in 100 years. There are, on the average, about 1,700 acres that receive damages from floodwater each year. When the Little Luckiamute is flooding, the Luckiamute River is also usually at flood stages. It has a much longer flood duration and creates a backwater problem in the lower portion of the Little Luckiamute area because floodwaters are slow to recede.

The major floodwater damages to agricultural land are the reduction in crop yields, limiting of crops to flood tolerant types, and the loss of fertilizers and spray materials by prolonged inundation. Other agricultural losses are caused by debris deposition, spreading of weeds in certified seed crops, sheet erosion, leaching of soil nutrients, and occasional loss of livestock. The restrictions on normal farm operations have resulted in increased operating costs to some farmers since they must work around wet areas. There has been a major shift to row crop production below Kings Valley Highway in the last few years, even with the hazards of flooding; and this higher value use will be hazardous if relief from flooding is not provided.

Significant damages occur to roads and bridges annually causing increased maintenance, repair and the extra cost of patrols during floods. Residents and travelers are frequently forced to detour several miles to avoid areas where the roads are flooded.



Flooding results in road damages and requires rerouting of traffic every winter. (SCS Photo 0-2852-2)

The December, 1964, flood was one of the largest floods of record. The peak discharge was estimated as having a 5 percent chance of occurrence. Nearly 2,900 acres were flooded and floodwater remained on parts of the area for several days causing extensive damage. Serious damages occurred to properties as a result of the out-of-bank flows and considerable damages resulted to roads and bridges. Flooding was also widespread throughout the Willamette Basin and other parts of the Pacific Northwest. During this flood, Kings Valley Highway was overtopped and acted as a dam. It created a flood pool over a mile wide above the highway. The Luckiamute River was also at flood stages and remained there over 5 days. This delayed the evacuation of floodwaters from the lower Little Luckiamute. The Little Luckiamute floodwater damages for this event were estimated to be about \$128,720.

During recent years, the landowners have made a concentrated effort to remove the massive log jams that accumulated as a result of the December, 1964 and subsequent floods. Most of these log jams have been removed, but a constant vigil is needed to keep additional logs and debris from collecting.

The total average annual damages are estimated to be \$79,830, of which \$42,780 are crop damages; \$16,690 are other agricultural damages; \$12,010 are road and bridge damages; and \$8,350 are indirect damages.

E R O S I O N

Erosion rates within the watershed vary from very low in the well forested upper watershed and flat alluvial flood plain areas, to moderate in the cultivated areas of footslope, and to high in areas of recent logging operations in the upper watershed. Local areas of stream bank erosion, generally related to debris jams or cultural disturbance, occur along the lower Little Luckiamute channel. Significant sediment contribution occurs from periodic landslide action along the steeper valleys of the Little Luckiamute River above Falls City. The following average annual sediment yield values have been assigned as representative of the areas indicated: well-forested areas, 0.1 acre foot per square mile (AF/sq.mi.); rolling footslope areas under cultivation, 0.3 AF/sq. mi.; alluvial flood-plain area, 0.1 AF/sq.mi.; and landslide areas or skid trails, roads, and landings in recently logged areas (including raw skid trails) 1.0 AF/sq.mi.

S E D I M E N T D E P O S I T I O N

Channel deposition is generally the result of debris or vegetative obstructions. Road ditches and slope breaks also receive some deposition. On cropland areas, deposition is mostly local, on-farm sheet type deposits in shallow depressions or along the footslope below cultivated or fallowed areas. A large percentage of the stream's sediment load passes through the watershed in suspension, thus adding to the downstream water quality problems.

P R O B L E M S R E L A T I N G T O W A T E R M A N A G E M E N T

Drainage

Several soils on the terraces and flood plains require drainage. On these wet soils, farm operation efficiency is restricted. Delayed planting causes high production costs and reduced yields. The drainage problem is aggravated by the frequent flooding. Without an adequate level of flood protection the existing outlets do not function fully and the needed on-farm land treatment measures such as drainage mains and laterals, tile drains, and land smoothing cannot be installed effectively.

Irrigation

Little Luckiamute is typical of the lower elevation streams of northwestern Oregon. Winter runoff volumes are large, but flows decrease rapidly during the spring. Summer flows are over-appropriated by existing water rights. There is only sufficient natural streamflow to adequately irrigate about 1080 acres with a full season supply of water. The present summer supply of water is critically short, and the situation is anticipated to become even more critical with the shifting of land use from non-irrigated to irrigated crops. Adjudication of water rights is needed to help relieve some of this problem.



The Little Luckiamute River Watershed climate and soils are ideally suited to the production of specialty crops, such as bush beans, when adequate water is available for irrigation. (SCS Photo 0-2939-6)

Presently all of the irrigation is by pumpage from natural streamflow with application by sprinklers. Low flows during the summer months have caused problems with the functioning of the pumps and have resulted in high maintenance costs. This has also resulted in reduced irrigation efficiencies and crop production problems.

As discussed in the soils section, the soils are fertile and are suited to a wide variety of crops. Any major irrigation expansion in the watershed is dependent on the development of an adequate source of water.

Municipal and Industrial Water

Falls City and Monmouth obtain their water from Teal Creek and from springs. These sources appear to be adequate to satisfy the future needs for Falls City.

Monmouth, however, has been experiencing shortages during the summer months for at least the last ten years and has had to ration water. Monmouth is the home of the Oregon College of Education, and is one of the fastest growing communities in the Willamette Valley with city officials expecting this growth to continue.

In 1969, Monmouth drilled several wells near the Willamette River and obtained a maximum flow of 400 gallons per minute to supplement existing supplies. The wells have provided relief to Monmouth during the summer months, but do not fully meet the present needs. 9/

Domestic water is a serious problem in the watershed and also in other portions of Polk County as groundwater sources are not available. To solve some of these problems the Luckiamute Domestic Water Association was formed and a plan developed to supply domestic water **needs**. In spring, 1970, the plans became a reality, and domestic water is now available to many users in the watershed area.

There are still many farmsteads in the watershed and the southern half of Polk County without an adequate quantity and quality of water. A dependable supply of water is needed to solve these problems.

F I S H A N D W I L D L I F E P R O B L E M S

Wildlife related problems include changes in wildlife habitat through certain agricultural and logging operations. Rapid changes occur in vegetation on logged off areas where wildlife food is at first plentiful and then declines as rank growing vegetation creates a closed canopy and poor quality feed for deer. Streamside trees and shrubs are valuable wildlife and salmonoid fish habitat; and extensive clearing destroys important den or nest trees for animals such as the racoon and the wood duck. Some wild animal populations cause occasional damage to property. Examples are rodents burrowing in ditches and dikes, crop damage by deer, and fruit tree cutting by beaver. Nutria are also causing considerable damage to streamside crops.

Low summer streamflows and heavy diversions below Falls City have caused warm water temperatures, reduced rearing areas and increased competition from rough fish populations and predator birds, all of which provide poor habitat for either resident or anadromous game fish.

Historically, the fish passage over Willamette Falls at Oregon City during low flow periods drastically limited fall run fish. This difficulty has been largely corrected by the installation of a modern fish passage facility. Fall fish runs are now beginning to make increased use of the Little Luckiamute. Anadromous fish passage is blocked in the Little Luckiamute River at Falls City by a high natural falls. However, surplus coho salmon and steelhead have been stocked to spawn in the stream above.

R E C R E A T I O N P R O B L E M S A N D N E E D S

Public recreation development in the Little Luckiamute basin is limited by access and the absence of outstanding recreation features. There are no large public lakes or reservoirs in or within an hour's drive of the watershed. The closest impoundment facilities are Fern Ridge near Eugene, Detroit Reservoir on the North Santiam River east of Salem, and the Green Peter and Foster Reservoirs on the South Santiam River southeast of Salem, all at distances of about 70 miles.

Most of the streamside access is in private ownership and often distant from public roads. There is only one streamside park in the watershed, Gerlinger Park above Falls City on the Little Luckiamute River. There are few private recreation developments in the county and most of these are restricted to special groups. This watershed has two organizational camps and several private waterfowl hunting areas. The organizational camps are The Campfire Girls Camp Kilowan on Teal Creek and the Baptist Church Camp near Black Rock above Falls City.

The watershed is within easy driving distance of the cities of Salem, Albany, Eugene, and Portland and could provide recreation to these extensive population centers.

There has been a considerable amount of local interest in developing recreation facilities in the watershed expressed by the residents of Falls City, The City of Monmouth, the Little Luckiamute Improvement District and Polk County.

According to the recent Willamette Basin Comprehensive Study,^{12/} there is a most pressing need in this area for development of water-related recreational resources. This report states that there is a demand for 3,358,000 water-based recreation days by 1980 within the Coast Range subbasin where the Little Luckiamute watershed is located. Activities include: Driving and sightseeing, picnicking, water sports, fishing, camping, boating, sports and games, beach use and hunting where they are compatible.

RELATIONSHIP TO LAND USE PLANS, POLICIES AND CONTROLS

There are no water resource development projects planned or being planned by other agencies within the Little Luckiamute River Watershed. However, the Willamette Basin Comprehensive Study identified a reservoir site on the Luckiamute River near Pedee which is recommended for early action by the Corps of Engineers. This reservoir would provide flood protection on the Luckiamute River which would effect the outlet conditions for the Little Luckiamute. The Corps of Engineers project would be complementary to this plan and there is no conflict expected between the two plans.

A new comprehensive land use plan is currently being developed for all of Polk County. The Little Luckiamute Watershed Plan is being recognized in the County plan and proposals in the project plan appear to conform with the objectives and policies of the comprehensive plan and those of the Oregon Land Conservation and Development Commission.

The State of Oregon Outdoor Recreational Plan identifies the need for additional water-based recreational developments in this area. The recreational features of this project were planned by the Regional Park and Recreational Agency of the Mid-Willamette Valley to help meet the needs identified in the State Plan.

The project proposals conform to the objectives and policies of the Mid-Willamette Air Pollution Authority.

ENVIRONMENTAL IMPACTS

CONSERVATION LAND TREATMENT

Land treatment measures will reduce erosion, permit more diversified cropping, and improve crop production. Conservation cropping systems and contour farming will protect 2500 acres from erosion. Drainage on 1400 acres will increase crop yields and reduce surface water runoff, but cause no land use changes. Stream bank protection on 1600 linear feet of stream will reduce stream bank erosion and downstream sedimentation. Pasture and hayland planting and management on about 500 acres will reduce erosion and improve the soil condition. Forest land improvement on about 1140 acres will have only slight effect on erosion with most of the erosion reduction accomplished by protection of about 200 acres disturbed by recent logging or construction activity. Drainage on about 1400 acres of present cropland will result in improved cropping but drainage is not expected to create land use changes or drainage of wet lands classed as Type 3, 4, or 5 in the Fish and Wildlife Service Circular 39.

Land use changes are not planned but minor changes in field boundaries are expected to result in clearing of 150 acres of brushland which is suited to cropping and irrigation. Irrigated cropland will be increased from 1080 acres to 5180 acres which will improve crop production and change kinds of crops raised but will not result in land use changes except for the 150 acres.

Land treatment measures will reduce turbidity and sedimentation from surface water run off. Turbidity and sedimentation are generally low except on stream reaches related to recent logging or construction and on lower reaches where cropland erosion creates a local problem. This will be reduced by land treatment. No other significant change in water quality is expected by land treatment.

Forest land properly maintained with good vegetative cover and adequate fire protection will become increasingly more esthetically pleasing.

Sediment deposition occurs on about 450 acres annually. Flood prevention structures will reduce this to about 200 acres per year and land treatment will reduce the amount of sediment.

NONSTRUCTURAL MEASURES

All of the proposed works of improvement are either land treatment or structural measures.

STRUCTURAL MEASURES

Six hundred thirty-seven acres of wildlife habitat area used for limited numbers of birds, small animals and deer (thirty deer per square mile) will be lost to this use by installation of the reservoir and diversion. An additional 258 acres in the recreational facilities area will have its use for wildlife modified by location of facilities and plantings.

An additional 440 acres of water surface for water-oriented wildlife habitat will be provided. A limited resting area use will be made of the reservoir by waterfowl.

A cold-water habitat will be created to provide a flat-water trout fishery which will accommodate 22,000 fisherman days per year.

About 780 acres of native grass and brushland will be cleared incidental to flood protection and irrigation development, and will become cropland. Six hundred acres will be required for the dam and reservoir; 258 acres for the recreational facilities; and 37 acres for road relocations and the diversion canal. The 895 acres is presently about 50 percent dry cropland, 20 percent grassland, 20 percent forest land, and 10 percent streams, roads, buildings, and other miscellaneous uses.

Easement on twenty-nine acres will be required for the irrigation pipelines; however, little permanent land use change will result, since they will be buried and will not conflict with most uses.

The reservoir will inundate and require relocation of 2.8 miles of county roads, two miles of municipal water lines, and one mile of electric power lines.

Area flooded by the average annual flood event will be reduced by project structures from 1657 to 516 acres and the 33 percent chance event will be reduced from 1985 to 632 acres.

Construction of the Teal Creek Reservoir will block passage of anadromous fish to 4.25 miles of spawning area of which about 2 miles will be inundated by the reservoir. The spawning area is annually used by about 170 coho salmon and a similar number of winter steelhead.

The fish resource of the Pacific Coast will be enhanced. Six hundred thousand fall chinook salmon fingerlings released in the reservoir will pass downstream to the ocean, and a new return run of 500 adult spawners will be established. An annual harvest of 31,500 pounds commercial fish and 3,750 angler days of sport fishing will be created.

Public water-based, outdoor recreation will be provided for 420,000 visitor days annually by the Teal Creek Reservoir and recreational facilities.

Tranquility of the rural environment will be disrupted by 210,000 visitor days of water-based recreation with the associated increase in land, water, air and noise pollution, litter and increased traffic hazards.

The reservoir and diversion canal will cause minor interruptions of normal travel routes of some wildlife species.

No rare or endangered species of plants or animals are found in this watershed project area.

Acreage with sediment and debris deposition will be reduced from 450 to 200 acres.

There will be no effect on the over-all amount of water available; however, the project will, by storage, bring about a redistribution of the available supply from the winter run-off to the summer low-flow period.

During a typical run-off year, the average, annual flow of Teal Creek below the dam will be increased from 38 cfs to 66 cfs and that of the Little Luckiamute at the mouth will be decreased from 366 cfs to 351 cfs.

There will be no effect on low-flow rates by the structure measures. Releases from the reservoir to meet downstream rights will lower water temperatures in lower Teal Creek and Little Luckiamute River below Teal Creek.

Peak flood flows will be reduced on Teal Creek and on Little Luckiamute River below Teal Creek. There may be minor bank erosion caused by sustained in-banks flows from controlled evacuation of the reservoirs.

There will be no significant effect on either quantity or quality of ground water.

Reduced peak flows will benefit the trout fishery on Teal Creek and the Little Luckiamute River.

Impacts will temporarily occur during the construction of the structural measures. Even though construction contracts will make provisions for minimizing these impacts, there will be noise, air, and water pollution created by construction equipment and activities.

There will be a significant increase in activity in and around the reservoir site during the construction period. Increased activity to a lesser extent will occur at other construction sites. This activity will cause a disturbance to local populations of wildlife. In addition, there will be a significant increase in automotive traffic, which will affect road crossing survival of birds and wildlife. This increased traffic to the sites; construction of irrigation pipelines along roads; and construction of the diversion canal across streets, roads, and driveways, at the edge of Falls City will create temporary local traffic hazards and blockage of access.

The structures will have only a minor effect on appearance of the streams below the sites. Reduction of peak flood flows will decrease debris movement and deposition.

Structural measures which include a 110 foot high earth fill dam with appurtenances, a concrete overflow diversion dam, a 7,354 foot concrete lined diversion canal, 9,600 feet of new road, and portions of the irrigation distribution system will create some disruption of the natural visual environment.

Storage of 6,216 acre feet of water will provide a reliable supply of water for irrigation of 4,100 acres resulting in more summer and fall green color contrast.

Creation of a multiple purpose reservoir with a 440 acre water surface and 4.8 miles of shoreline and 10 farm ponds with 60 surface acres will increase the ratio of water to land area.

The reservoir will inundate 2.5 miles of natural streams and 440 acres of native pasture, hay and grain cropland, brush and woodland along Teal and Boughey Creeks.

Fourteen families, including 45 people and 3 farm operations, will be displaced by land rights acquisition for the reservoir.

Construction of residences, roads, commercial buildings and utility services needed for the increased population will create temporary air, water, and noise pollution.

Irrigation, residential, and commercial developments created by the project water supply and recreation usage will increase the tax base and improve the economic stability of the community and of Polk County.

The reservoir will trap and store 381 acre feet of sediment and thereby reduce downstream turbidity.

During a portion of the year, there will be a fluctuating water line as the pool area varies from a maximum of 440 surface acres to a minimum of 340 surface acres. Some mud flat area will result on the perimeter, especially in later summer and early fall. Some minor areas of algal bloom may occur in late summer on shallow water areas which are protected from wind and wave action.

The Willakenzie and Nekia soils that will occur along the shoreline of the reservoirs do not contain any significant quantity of the types of clays known to be dispersive in ponds and reservoirs. Therefore, except during storm runoff events when any reservoir will be temporarily turbid, turbidity in the reservoir should be minor to nonexistent.

FAVORABLE ENVIRONMENTAL IMPACTS

CONSERVATION LAND TREATMENT MEASURES

WILL :

Reduce erosion on 2,500 acres of cropland.

Increase crop yields on 1,400 acres by drainage practices.

Reduce streambank erosion on 200 acres of land recently disturbed by logging or construction activities.

Maintain or increase productivity on forest land and cropland.

Reduce turbidity of surface water runoff and stream flows.

Improve esthetic values of the watershed.

Reduce the volume of sediment deposition.

Decrease acreage burned by forest fires.

STRUCTURAL MEASURES WILL :

Increase waterfowl resting areas and water-oriented wildlife habitat.

Provide additional cold water fishery.

Reduce area flooded.

Reduce acreage of sediment deposition.

Decrease the temperature of stream waters during the summer period.

Reduce peak flood flows and stream turbidity.

Improve the trout fishery in the streams below Teal Creek Reservoir.

Improve the local tax base and economic stability of the community.

Improve stream esthetic values below the dam and diversion.

Water based recreation will be provided for an additional 420,000 visitor days annually.

Enhance salmon fishery resources.

Improve visual quality by improving water-to-land ratio.

ADVERSE ENVIRONMENTAL IMPACTS

780 acres of brushy wildlife habitat will be cleared and changed to cropland incidental to providing flood prevention and irrigation.

637 acres of wildlife habitat area will be lost by installation of structures and 258 acres will be modified in the recreation area.

New roads, waterlines and power lines will be constructed to relocate those inundated by the reservoir.

Anadromous fish passage will be blocked by the Teal Creek Reservoir.

Two miles of anadromous fish spawning area will be inundated by the reservoir.

Travel routes of some wildlife may be interrupted by the reservoir and diversion canal.

Tranquility of the rural environment will be reduced.

Construction activities will temporarily:

Increase noise, air pollution, and stream turbidity.

Create traffic congestion.

Create hazards to wildlife.

2.5 miles of stream will be inundated by the reservoir.

Structural measures will disrupt the natural visual environment.

Air, water and noise pollution will be increased temporarily by construction to meet the needs of accelerated population growth.

Fourteen families will be displaced due to reservoir construction.

Reservoir drawdown will create a temporary mud flat area each year.

ALTERNATIVES

ACCELERATED LAND TREATMENT

This alternative would include accelerating the installation of land treatment measures that would provide watershed protection and land improvement. These measures would include drainage, conservation cropping systems with cover crops, crop residue use, pasture and hay planting, tree planting, and accelerated fire protection of the forestland. This alternative would cost \$525,000.

The cover conditions of the upland and foothill areas are in good to excellent hydrologic condition. Most of the land treatment measures would be in the cropland areas, a small percentage of the total watershed, thus the benefits from reduction of flood flows would be negligible. The land treatment on the cropland would, however, reduce erosion, diversify cropping, and improve pasture and hay production. No provision for water supply, recreation, or fishery enhancement would be included in this alternative and these benefits would be forgone.

ACCELERATED LAND TREATMENT AND

ACQUISITION OF FLOOD PLAIN PROPERTY

This alternative would include the benefits and impacts of the accelerated land treatment only alternative. Acquisition of the 100-year flood plain would include the purchase of 2,940 acres of farmland, which are subject to flooding, at a cost of about 2 million dollars. Acquisition of only the annual flood plain would include the purchase of 1,700 acres of farmland at a cost of about 1.1 million dollars. Purchase of this flood plain land would cause serious disturbance to the economic, social, and cultural patterns of the community. No provisions for water supply, recreation, or fishery enhancement would be included in this alternative and the benefits from these sources would be foregone.

FLOOD PREVENTION BY CHANNEL ENLARGEMENT

This alternative would involve about 10 miles of channel enlargement and would provide flood protection to the flood plain. Backwater from the Luckiamute River would limit the benefits in the lower reaches of the Little Luckiamute River flood plain.

The channel enlargement would include the widening and deepening of the existing stream channel to more rapidly convey the water out of the flood plain. This process would necessitate that much of the stream biota be destroyed in spite of measures taken to minimize this destruction. In addition much of the natural scenic value of the stream and the stream fishery would be lost. About 100 acres of productive cropland would be permanently lost. The cost of this alternative is \$2,204,000.

IRRIGATION BY PUMPING FROM THE WILLAMETTE RIVER

This alternative would use irrigation water available in the Willamette River that has been released from existing upstream storage reservoirs. The water would be of good quality, and the source would be very reliable. This alternative would require that the water be pumped and conveyed to the irrigation service area in a nine-mile long pressure pipeline. The construction cost of this delivery system would be about 2 million dollars. In addition to energy for distribution system pumping, approximately 1.75 million kilowatt-hours of electrical energy would be required annually to operate this system, which would increase associated environmental problems.

ACCELERATED LAND TREATMENT AND RECREATIONAL DEVELOPMENT

The benefits and impacts of the accelerated land treatment alternative would be realized with this alternative. A single-purpose reservoir for recreation could be constructed at the Grant Creek site. This reservoir would have a capacity of 5,000 acre-feet and a surface area of 142 acres. The reservoir would cost approximately 1.25 million dollars. There would be about 60 acres of cropland and 140 acres of woodland committed to the dam and reservoir. No provision for water supply or flood prevention would be included in this alternative and possible benefits from these sources would be forgone. The installation of this reservoir would require relocation of 9500 feet of county road, a mobile home, and two sets of farm outbuildings. Recreational use would be about 100,000 visitor days per year.

LAND TREATMENT AND SINGLE PURPOSE FLOOD PREVENTION RESERVOIR

The benefits and impacts of the accelerated land treatment alternative would be realized with this alternative. A single-purpose reservoir with a diversion system for flood prevention which would attain benefits similar to the proposed multiple-purpose Teal Creek Reservoir and diversion system could be constructed. This single-purpose reservoir and diversion system would cost about 5.3 million dollars and would require land and water resources similar to the multiple-purpose reservoir. Benefits to water supply, recreation, or fishery enhancement would be foregone. There would be about 350 acres permanently committed to the dam and reservoir.

LAND TREATMENT AND A RESERVOIR FOR WATER SUPPLY

The benefits and impacts of the accelerated land treatment alternative would be realized with this alternative. A multiple-purpose reservoir similar to the proposed Teal Creek Reservoir could be constructed for irrigation and municipal and industrial water

supply only. This alternative would not require the construction of the diversion system and; therefore, the beneficial and adverse impacts of the diversion system would not be realized. A water supply reservoir at the Teal Creek site would cost about 3.5 million dollars and would use land resources similar to those required for the proposed, multiple-purpose reservoir. There would be about 380 acres permanently committed to the dam and reservoir.

Another alternative for providing an irrigation and municipal-industrial water supply is to construct a reservoir at the Grant Creek site. Since the watershed for Grant Creek does not have adequate, reliable yield to supply the needed water, it would be necessary to pump water from the Little Luckiamute River during the winter months to fill the reservoir. This alternative would cost about 2.2 million dollars. About 60 acres of cropland and 240 acres of woodland would be permanently committed to the dam and reservoir for this alternate means of providing water supply only. In addition, considerable electrical energy would be required annually which would create the impacts associated with generating this energy.

Benefits of recreation, fishery enhancement, and flood prevention would be foregone with this alternative.

ALTERNATE MULTIPLE-PURPOSE RESERVOIR SITES

There are at least three alternate reservoir sites to the proposed, multiple-purpose Teal Creek Reservoir. The Grant Creek site has a potential capacity in excess of 16,000 acre-feet. The watershed for the site has a reliable yield of about 6,000 acre-feet. To fill the reservoir with more than 6,000 acre-feet would require that water be imported from an outside source such as by pumping in the winter months from the Little Luckiamute River. A reservoir at this site would control three square miles of drainage area and would have little effect on flood prevention. One trailer house and several barns would have to be moved from the reservoir area, and 9500 feet of secondary county road would have to be relocated around the reservoir. About 60 acres of cropland and an amount of woodland, depending on the selected size of the reservoir, would be needed. The reservoir would be surrounded by woodland and would be a pleasing setting for recreation. The reservoir at the Grant Creek Site would also have the capability of serving fishery enhancement needs.

Another alternate reservoir site is the Lower Teal Creek site. A reservoir at this site would control the Grant Creek drainage and, therefore, would provide more flood control. In other respects the benefits and impacts would be similar to a combination of the proposed

Teal Creek Reservoir and Grant Creek Reservoir. A reservoir at this site would negate the possibility of developing the Grant Creek Site to its full potential in the future. This site, if fully developed, would provide water supply and other resources in excess of project needs.

A third alternate reservoir site is the Black Rock site. This site is on the Little Luckiamute River above Falls City and would control 17.85 square miles of drainage area and could provide a higher level of flood prevention than the proposed Teal Creek Reservoir and the diversion system. The site has a small storage basin in comparison to the volume of fill required for the dam and, therefore, would have the storage capabilities to satisfy only a part of the needs for water supply, recreation, and fishery enhancement. There are several slide areas and potential slide areas above the dam site which would create a hazard to the safety of the dam and greatly increase costs. The reservoir would be primarily in woodland and is in a desirable setting for recreational purposes. A private logging road and hiking trail would be relocated.

NO PROJECT

With no project action, the on-going land treatment program with the assistance of the Polk Soil and Water Conservation District would continue at its present pace. Recreational demands would have to be met elsewhere or left unsatisfied. Fishery enhancement would be foregone. Municipal and industrial water would not be available to meet anticipated needs and the expansion-type benefits, from new developments drawn by the availability of this water, would be foregone. In addition the City of Monmouth would continue to experience water shortages during the summer months, and the needs within the Luckiamute Domestic Water Association would be left unmet. Without a reliable source of irrigation water, the shift of land use from non-irrigated to irrigated crops will stop. This will necessitate continued production of the lower-income producing, non-irrigated crops which will result in a trend to larger farms to realize economical units or will result in part-time farming on the smaller tracts.

Average, annual net benefits of \$472,200 would be foregone by not implementing the planned project.

SHORT - TERM VS. LONG - TERM USE OF RESOURCES

This plan provides for levels of flood prevention, agricultural water management, municipal-industrial water supply, recreation, and fishery enhancement compatible with the projected, long-term needs of the watershed and adjacent areas.

The combination of conservation land treatment and structural measures will meet the needs for both short-term and long-term sustained and increased forestry and agricultural production. The project will provide a needed stability to the farm operations by improving productivity and net income, which will keep the better agricultural land in this use.

The plan includes a substantial recreational use of the reservoir and associated recreational facilities. This development is needed to meet short-term needs as well as to help meet long-term needs of the region.

The structural measures were evaluated as providing the planned level of protection or development for 100 years. With planned maintenance and replacements, the structures should remain fully effective for a substantial time thereafter.

The added economic activity resulting from the project will provide both short-term and long-term employment and commercial business needed in the Polk County area to improve income and the tax base.

The project will eliminate options for long-term, land-use changes on areas incorporated into the Teal Creek Reservoir, the diversion dam, road relocations, and the canal. Options of use will be reduced on lands used for the recreational facilities and the pipelines.

All environmental impacts are expected to be long-term except for temporary impacts created by construction activities.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Approximately 700 acres of land will be used or disturbed by project construction. Approximately 440 acres will be covered by reservoir water, which will be essentially an irreversible change from land to water as long as the reservoir is used. Present land uses of the 440 acres includes native pasture, 65 percent; hay and grain, 20 percent; and brush and woodland, 15 percent. A recreation area totaling 258 acres will be developed. This land is currently devoted largely to woodland and pasture. About 60 acres of the total will be a Class 1 recreation development with clearing, seeding, and some irrigation. The remainder will be developed with limited access in some areas and nature trails in others, but left principally in natural cover. This land area will be dedicated to this use over the project life.

Water resources will be committed to the uses in the plan as follows: fishery enhancement, 3,000 acre feet (AF); recreation, 11,528 AF; municipal and industrial water, 3,875 AF; and irrigation, 6,216 AF.

The commitment of the land and water resources described above does not preclude the physical use of the resources for other purposes except for the area on which the dam is situated. The reservoir could be drained and used for other purposes, as could the recreation area and the areas used for the diversion and irrigation pipelines.

Labor and materials valued at \$7,854,140 will be used in the construction of project structures. The labor resources used will be 322 man years. The largest materials item will be 4,040,000 cubic yards of earth fill. Other principal materials will include concrete and materials used for pumps, pipes, controls, and buildings.

The reservoir will inundate 2.5 miles of perennial stream.

CONSULTATION AND REVIEW WITH APPROPRIATE AGENCIES AND OTHERS

GENERAL

Modern efforts to solve water and related land measure problems on Little Luckiamute Watershed stem from a public meeting held in January of 1966. A Committee was formed to assess the water resource needs. Land owner problem needs survey data were obtained from 196 property owners. Once the problems were determined, the Corps of Engineers, Bureau of Reclamation, and Soil Conservation Service each met with the committee to explain their respective programs. Committee findings were reported in another general public meeting and a series of neighborhood meetings, and the people decided PL.566 would best meet their needs. In January of 1968, a PL.566 application was submitted and subsequently planning approval was received.

The Little Luckiamute River area had considerable resource data available as the result of the Willamette River Basin Study. This data served as a basis of the initial project formulation in 1968 and 1969 and pointed out additional opportunities in recreation and fish and wildlife enhancement.

During 1968, a special fish and wildlife committee composed of representatives of the Oregon State Wildlife Commission, Fish Commission of Oregon, Bureau of Sport Fisheries and Wildlife, the National Marine Fisheries Service, and the Soil Conservation Service was formed. This committee studied the project proposals and opportunities and during the next three years assisted in developing these aspects of the Little Luckiamute Plan.

During the plan formulation period, the City of Monmouth and Polk County assessed their municipal and industrial water needs based on population projections and requested additional water for these purposes. Polk County requirements are tailored to their long range land use plan.

In early 1969, a water control district was formed and gave initial direction to the planning effort. Planning efforts were broadened later by the formation of the Little Luckiamute River Coordinating Council. This group was composed of representatives from the Water Control District (subsequently dissolved by a local election and reformed as the Little Luckiamute Improvement District), Regional Park and Recreational Agency, Polk Soil and Water Conservation District, City of Monmouth, Polk County Commissioners, Polk County Planning Commission, and Polk County Parks Commission. The

Extension Service, State Department of Forestry, and the Soil Conservation Service served as technical advisors.

In 1969 and 1970, a series of 20 local meetings were held by the sponsors to progressively develop the plan. Representatives of concerned agencies were invited and all meetings were open to the public. After the project was formulated, a rough draft work plan was presented at a general public meeting in April of 1970. The work plan was then revised to reflect both public and technical comments and presented at the informal agency field review meeting in December of 1970. Newspaper coverage has been extensive throughout work plan development.

The State Historic Preservation Officer was consulted and archeologists from Oregon State University investigated the project area during planning of this project. It was determined that the proposed project will not affect any known plans of archeological or historical value. The Soil Conservation Service will keep the National Park Service informed of the progress of the project and of any subsequent findings during its development.

During the planning period, the work plan initial drafts were reviewed by various federal and state agencies and the local people. Questions raised at this time are as follows:

1. The United States Forest Service, in April 1970, expressed concern that the recreational facilities planned for Teal Creek Reservoir may not accommodate the usage estimated by the Regional Park and Recreational Agency. Subsequently, usage projections beyond 1980 were stabilized at the 1980 level and operations and maintenance cost estimates increased to insure no deterioration of the recreational resource.
2. The Oregon State Department of Environmental Quality in December of 1970 expressed concern on the following environmental questions.
 - (a) Proposed water supply facilities and recreational sanitary facilities should be reviewed at time of construction to meet all appropriate state and/or public health requirements.

The sponsors and the Soil Conservation Service will meet all existing regulations and standards when the project is constructed.

- (b) The on-farm tile drains could conceivably convey agricultural chemical residues and storage releases might be necessary to dilute stream flows.

On this point, the Extension Service and Soil Conservation Service pointed out that the tile drains function only in the winter time when natural stream flows are high.

- (c) The Department of Environmental Quality expressed concern about the additional effluent resulting from the processing of new irrigated crops.

The sponsors pointed out that food processing would be done in existing plants outside the basin and these plants already have arrangements for handling agricultural wastes.

- 3. Objections have been expressed by landowners. The primary concern has been the possible fire danger and trespass problem connected with the recreational development. They have written numerous letters to Congressmen, Washington, D.C. executives, and others opposing the project. In addition, several ads have been placed in the local paper against project development.

Representatives of the project sponsors and the Soil Conservation Service have met with these landowners to answer their questions and to assure them that their concerns will be considered in design and installation of this project. The Oregon State Department of Forestry has developed a land treatment and fire control plan for the watershed that is designed to maintain or reduce the current low burn incidence even with increased recreational use in the area.

AGENCIES REQUESTED TO COMMENT
ON DRAFT ENVIRONMENTAL STATEMENT

Oregon State Engineer (Coordinator for all State of Oregon Agencies)

Local Government Relations Division, Executive Department,
State of Oregon

Mid-Willamette Council of Governments

Environmental Protection Agency

Federal Power Commission

Department of Commerce

Department of Transportation

Department of the Army

Department of the Interior

Department of Health, Education and Welfare

Advisory Council on Historic Preservation

Office of Equal Opportunity, USDA

Of the above, written response was received from the State Engineer, Environmental Protection Agency, Department of Transportation, Department of Interior, Department of the Army, and Advisory Council on Historic Preservation.

DISCUSSION AND DISPOSITION OF EACH COMMENT ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEDERAL AGENCIES:

Environmental Protection Agency

1. Comment: Some aspects of the project, such as adverse impacts on downstream banks following project channelization and possible algal blooms due to low flow and hot weather, should probably be discussed.

Response: The planned project does not include any channelization. Downstream effects by reservoir evacuation flows and algal bloom in the reservoir are added to the EIS section on impacts of structural measures.

2. Comment: Our comments on this draft statement have been classified LO-1, LO (Lack of Objections), 1 (Adequate Information). The classification and the date of the Environmental Protection Agency's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our review on proposed Federal actions under Section 309 of the Clean Air Act.

Response: None required

Department of Transportation

1. Comment: "It should be ascertained that adequate monitoring of oil and hazardous substance discharges are provided during and after the construction period."

Response: Reference to this item added to the Installation and O&M sections of the work plan and to the EIS sections on Protection of Environmental Quality During Installation and O&M.

Advisory Council on Historic Preservation

1. Comment: Your draft environmental statement (DES) appears adequate

regarding our area of expertise, provided that your reference on page 26 of the DES to the "Federal Register" refers to the listing of the National Register of Historic Places which is published in the Federal Register.

Response: Name changed to correctly identify the "National Register of Historic Places."

U. S. Department of the Interior

1. Comment: In Addendum I of the work plan under Section A-8 of Part 2-5, we feel flows by month should be shown, since adequate minimum flows are critical for fish needs. If such flow analysis is shown elsewhere in the work plan, a reference would be sufficient.

Response: A listing of monthly flows is added to Environmental Setting-Water Resources section of the EIS.

2. Comment: Many of the suggestions previously made by Federal and State conservation agencies have been incorporated into the draft work plan. The plan adequately covers effects on anadromous fish, provides for loss mitigation by trapping and hauling to allow continued use of upstream habitat, and insures fisheries enhancement by providing for the rearing and releasing of salmon and steelhead. Adequate minimum flows will also allow continued anadromous fish use downstream.

Response: Item added to "Incidental Effects" section of work plan.

3. Comment: The project calls for regular stocking of rainbow trout. Annual cost is included in the operation, maintenance, and replacement costs to be assumed by the non-Federal sponsors and cooperating agencies, but the cost of incubation and rearing facilities for providing these fish is neither considered in the economic analysis nor reflected anywhere in the plan. These facilities should be considered in the initial project installation costs, and as such, should be subject to cost-sharing.

Response: The cost for regular fish stocking is included in the O&M costs. This cost includes the cost of fish which would include the share of capital investment required to incubate and rear them. Project funds cannot be used to pay for construction of hatching facilities.

4. Comment: It would be helpful, if in the final work plan, instead of references to acres of land to be flooded or un-flooded, or whatever anticipated status change, some slight breakdown into types of habitat and kinds of change is provided. This means

we would appreciate sufficient information to enable us to draw a comparison between without-the-project and with-the-project wildlife support capabilities.

Response: Listing of land use, acres, and wildlife support capability added to Effects section of plan and EIS.

5. Comment: The following species should be added to the list under fish and wildlife resources in the description section on page 15: weasel, bobcat, cougar, and spotted owl. The northern spotted owl, Strix occidentalis caurine, has not been recognized nationally as an endangered species but it is listed under threatened birds of the United States in the 1973 edition of Threatened Wildlife of the United States, a publication of the U. S. Department of the Interior.

Response: Species added.

6. Comment: In Item No. 4 of Operation of the Structures: Continual maintenance of natural stream channels is indicated. This section should be expanded to allay any concern over possible conflict between the concepts of channel maintenance and normal stream habitat. Maintenance activities should therefore be restricted to removal of obstructions that would divert stream-flow to cause significant flooding.

Response: The O&M sections are revised to correctly express the functions planned. It is not intended to remove or otherwise disturb trees, brush, or other vegetation growing on the banks of the streams. Only debris jams will be removed.

7. Comment: Removal activities should be localized as much as possible and be designed to cause minimal disruption of stream substrates. Provision should be made for conferring with conservation agency biologists before any channel work is begun. Chemical removal of aquatic vegetation should be avoided.

Response: See response to comment 6 regarding vegetation. Caution regarding disruption of stream substrates added.

8. Comment: Provision should also be made for the maintenance of a riparian buffer strip along the Little Luckiamute River within the project area.

Response: No easements or project funding is included for work on the Little Luckiamute below the diversion. This strip is largely there now and its maintenance can be included in the conservation plans to be developed with landowners involved.

9. Comment: Point 2 under Maintenance of Facilities should be made consistent with a clarified description of stream maintenance activities as suggested above.

Response: Revised. See response to comment 6.

10. Comment: In the discussion of Existing Water Rights, it is not clear whether a minimum flow for fish will be insured, or if prior rights by irrigators and M&I users would be allowed to dry up the stream.

Response: Prior rights will be unchanged by this project. Oregon water right laws are based on priority of use and this project must honor those rights. Storage of water to augment low flows is not included.

11. Comment: The Geological Survey has classified approximately 320 acres in the project area in Power Site Reserve and in Water Power Designation. Although these sites lie within the project area, the classified lands would be unaffected by the proposed watershed project.

Response: Noted.

12. Comment: It is stated that "This storage (for sediment) will occur after seepage and evaporation have taken place . . ." We assume this means after allowances for seepage and evaporation. Paragraph 2 implies that the 381 acre-feet includes losses, whereas in paragraph 4 it is indicated that the 381 acre-feet is after and in addition to losses. Some clarification of these points should be made.

Response: The statement is reworded to clarify this item.

13. Comment: There are no Bureau of Land Management (BLM) administered lands in the reservoir-taking area or the downstream area receiving benefits from the project. There is, however, a relatively small acreage of BLM land in the overall watershed upstream from the reservoir. We anticipate that the implementation of the project will pose no problems in the management of these BLM lands.

Response: Comment noted.

14. Comment: We believe the work plan and environmental statement would be improved if the rationale was provided for the recreation visitation estimate used in this study. The visitation estimates seem to be overly optimistic when one considers the water body being provided, 440 surface acres at high water and 340 acres at low water. Based on the annual visitation estimate daily use averages 1200 visits daily

throughout the year. Since the area is subject to seasonal climate changes, daily visitation would be substantially higher than 1,200 visits per day to compensate for the little or no use during the periods of adverse weather conditions. Both the work plan and the impact statement would be improved if they contained the rationale to support such high use values.

Response: The use estimates were provided by the Regional Park and Recreation Agency of the Mid-Willamette Valley. They used a procedure, explained on page I-11, involving population, transportation, length of season, other complimentary or competing developments, site limitations, and facilities to be provided. Use experience by similar developments was used to check estimates. See response to OEC comment number 6 for correction of use figures.

15. Comment: The central part of the entire Watershed Plan is the construction of the Teal Creek Dam. Without the dam, there would be no project. However, the fact that a dam is to be built is not mentioned until the fifth item summarizing the environmental impacts (page of the summary in the EIS)-- something as far reaching as construction of a dam should be mentioned prominently under project purposes and actions.

Response: Added to Item IV. The reservoir impacts are also covered in Item 2 on page 1 which is the first coverage of structural measure impact and is the first item covered in the planned structural measures section of the EIS.

16. Comment: The levels of the orifices for the principal spillway in the box-inlet should be indicated. Without this information, we are unable to properly evaluate claims of fishery enhancement as a result of releases of lower temperature water during the summer.

Response: The low flows passed through the reservoir will be through the outlet pipe at the bottom of the dam as explained in the Planned Project-Teal Creek Reservoir section of the EIS.

17. Comment: The statement is silent as to what measures are being taken to mitigate the impacts of dislocating 45 people (14 families) in the project area, including three farm operations. The discussions should consider:

- a. Relocation or destruction of homes.
- b. Resource losses on the farm operations.
- c. Impact on the local community and/or on other communities by this displacement.

Response: (a) The option for either action will be provided. Each case will be considered separately. (b) Acreages and facilities lost are recognized in the EIS and were included in the reservoir costs. Only minor production capacity will be lost and it will be far more than offset by increased capability with the project. (c) People relocated will have the option of remaining in this community or not. The new or improved homes which will result should at least compensate for any property value loss to the community tax base.

18. Comment: The statement refers to frequency of inspections of the completed facility and who will make such inspections. The statement should also discuss the impact of a dam or other facility failure to the surrounding and downstream areas.

Response: The only facility failure which could cause any significant adverse effect would be the Teal Creek Dam. This dam will be constructed to be fail proof under any circumstance short of a completely devastating, catastrophic event in this area; in which event adding failure of this structure would be meaningless.

19. Comment: The statement does not mention that two active limestone quarries are located within the watershed, and that there is some potential for manganese resources. A small concentration of manganese has been reported in the bank and bed of Rickreall Creek about 1 mile north of the watershed boundary. However, while we believe the major structural feature of the plan will not adversely affect the active quarries or the exploration for manganese mineral activities and resources should be mentioned in the final statement.

Response: The presence of limestone quarries and possible presence of manganese noted in Environmental Setting section of EIS.

20. Comment: On page 29 the plan envisions "clearing of the reservoir of all brush and trees" to assist in maintaining water quality. The plan doesn't discuss the possibility of leaving small groupings of trees (these would become snags) which would provide perching or nesting habitat for birds. If strategically placed such groupings could also slow down the wave action which causes water turbidity in shallow areas.

Response: The statement is revised to include this option.

21. Comment: The statement correctly points out the increased stream turbidity to be expected during the construction period. However, the potential long-term adverse impact

on water quality from turbidity was not discussed. Wave action resulting from wind or boat wakes may increase turbidity in the reservoir particularly near shallow or mud flat areas. This additional discussion would improve the overall approach to the turbidity problem.

Response: An item on reduction of turbidity is added to the Environmental Impact section. Use regulation will be enforced to prevent significant shoreline erosion. The turbidity from the boat and wave actions will be limited to isolated areas within the reservoir. The reservoir will trap the material dislodged, as well as material entering the reservoir in the stream, and outflow from the reservoir will be substantially less turbid than present streamflow.

22. Comment: It is stated that 637 acres of wildlife habitat will be lost to reservoir and diversion structures; 258 acres of wildlife habitat will be converted to recreational development; and 150 acres of wildlife habitat will be cleared for irrigation development. This description does not adequately identify potential habitat loss. It may be necessary to inventory the actual habitat areas and species suitability to properly describe project impact on wildlife habitat.

Response: Information on changes in wildlife habitat included in EIS impact section and added to Effects section of plan.

23. Comment: No measures appear in the statement to mitigate this loss of habitat. This should be given further attention and analysis in the final statement.

Response: It is believed that the net loss of wildlife habitat will be very small. Except for the 440 acres of the reservoir pool, most of the areas will have continued use by wildlife. With plantings for wildlife food and cover, and the additional water in the dry period, the useability of the area for wildlife will not be reduced significantly more than would occur with expected future changes without project action.

24. Comment: Discussion of the effects of reservoir drawdowns is inadequate. The only reference to drawdowns in the entire document is on page 41 in the section entitled "Adverse Environmental Impacts" and reads "Reservoir drawdown will create a temporary mud flat area each year". Research into the probable impacts associated with project-caused fluctuations on outdoor recreation facilities, waters, and lands is warranted; mitigative measures which deal with such impacts should also be addressed. Problems such as accelerated erosion, isolation of developed sites from the water, physical hazards to persons because of rapidly rising water levels, and inoperative boat launching are possible adverse

impacts associated with drawdowns. A complete discussion of this subject should be highlighted in the final environmental impact statement.

Response: The problems mentioned have all been "researched" in development of the plan for this reservoir and associated recreational facilities. Drawdown was a major consideration in location, design, and use estimates for the development. All environmental effects are identified.

Since this reservoir does not effect any existing facilities, it is not correct to apply the concept of mitigation to the design and operation of this proposed development.

Accelerated erosion - see response to Comment 21.

Hazard of rapid change in water level - no such possibility can occur with this type of operation.

Boat ramp inoperative - the ramp will function at all water levels. It will extend to minimum pool level.

Department of the Army

1. Comment: We have reviewed the work plan and foresee no conflict with any projects or current proposals of this Department. The draft environmental statement is considered to be generally satisfactory.

Response: None required.

STATE OF OREGON AGENCIES:

Department of Environmental Quality

1. Comment: It is our opinion, based on recent study results, that channel improvements should be limited to log jam removal only-- with no other disturbance to channel configurations, depths, widths, or shoreline vegetation. These natural conditions appear to be the most effective known for dissipating the destructive energies of a flooding stream.

Response: The planned project does not propose channel modification. O&M sections of plan and EIS reworded in line with this comment.

Fish Commission

1. Comment: Page 15 of the Watershed Plan, and 27 of the Environmental Statement says the fish agencies have been introducing coho salmon into the basin stream. It should say coho salmon and steelhead. Also, fall chinook smolts were stocked in the Little Luckiamute in 1974.

Response: Revised as stated.

2. Comment: Page 33 of the Environmental Statement says "surplus coho salmon have been stocked above the falls to spawn." It should say "coho salmon and steelhead have been stocked above the falls to spawn." Surplus steelhead adults were put in the Little Luckiamute in 1968, 1969, 1971 and 1972.

Response: Revised as stated.

3. Comment: Page 20 of the Watershed Plan and 32 of the Environmental Statement says "streamside trees and shrubs are valuable wildlife habitat." It should also say "streamside trees and shrubs are valuable for quality salmonid fish habitat."

Response: Revised as stated.

4. Comment: Page 35 of the Watershed Plan states "the maximum flow to be diverted into the diversion canal will be 150 cfs during April and May." We question limiting this diversion to 150 cfs maximum. It will be of benefit for downstream passage of salmon and steelhead to have the reservoir fill as quickly as possible. Many times streamflows during this period will be enough to divert more than 150 cfs into the reservoir. For good fish passage, the maximum diverted into the reservoir should not be limited to 150 cfs in April and May.

Response: The reservoir operation and maintenance plan and agreement, developed prior to construction, can include this option to the extent that rapid, early filling of the reservoir does not conflict with the needs for flood storage capacity. The sentence with the 150 cfs limit is removed from the planned project section of the EIS.

5. Comment: Page 6 of the Environmental Statement states the project objectives are to enhance the salmon and steelhead fishery. As presently formulated, we believe the project would only significantly enhance the salmon fishery in the Willamette and Columbia rivers.

Response: Reference to steelhead deleted.

6. Comment: We believe it would be of benefit if fish habitat maps could be shown in the Work Plan and Environmental Statement.

Response: Agreed. This type of map will be put in future plans if available and pertinent. They will be included in the planning documentation for this project and will be available for consideration in design, installation, and operation of the project.

Wildlife Commission

1. Comment: Pages 48 of the Watershed Plan and 11 of the Environmental Statement mention the various recreational facilities available on Teal Creek Reservoir. The reduced pool in the summer months will expose mud flats and limit the access available to bank anglers. Boat ramps would have to be extended to the low pool level for boat angler access.

Response: The occurrence of drawdown is recognized and covered in both the plan and EIS. This should not limit access for bank anglers since it is not expected that the drawdown areas will be swampy or will otherwise restrict access. The type of soil material and shaping to facilitate drainage in these areas should make them usable and minimize adverse visual effects. The plan proposes extending the boat ramp to low pool level (see Figure 3).

2. Comment: Pages 34 of the Watershed Plan and 16 of the Environmental Statement state "Operation of anadromous fish mitigation facilities at Teal Creek Reservoir will include all functions necessary to trap and hold adult fish." It should address the possibility of Willamette River cutthroat using Teal Creek during the fall and winter months. The facilities would have to be carefully designed to handle both kinds of fish.

Response: Handling of cutthroat added to O&M.

3. Comment: Page 38 of the Environmental Statement says "Reduction of peak flood flows will decrease bank and channel erosion." Experience on other streams has been that once peak flows are contained, reservoirs frequently are evacuated to cause bank-full flows for prolonged periods. That can cause greater bank erosion than unregulated freshets of shorter durations.

Response: Agreed. "Bank and channel erosion" deleted from the sentence. Consideration of this concern added to operation and maintenance sections of plan and EIS.

4. Comment: Page 36 of the Environmental Statement assumes a deer density of four deer per square mile for the wildlife habitat lost to reservoir and diversion construction. The figure should be 30 deer per square mile.

Response: Changed to 30 as stated.

5. Comment: Pages 39 and 40 in the Environmental Statement discuss favorable and adverse environmental impacts associated with the reservoir. It states that more than 1,000 acres of wildlife habitat will be lost or impaired, but that (440 acres) waterfowl resting area is gained. Waterfowl use probably will be limited since the reservoir would be located on the periphery of the flyway. The big game habitat is especially valuable in the severe winters, hence is much more important.

Response: The limitation of use is recognized. A review of the use and condition of land to be changed to structural measure use appears to verify that the future use of this area "without project" by big game animals would be severely limited. The statements in the EIS are revised to identify "limited" use for waterfowl resting. Otherwise, the various items identifying the loss or gain in habitat appear to be adequate.

6. Comment: Pages 47 of the Watershed Work Plan and 39 of the Environmental Statement discuss higher value crops associated with increased available irrigation water. The introduction of new crops such as vegetables, strawberries, seed crops and higher yields will also increase the incidence of deer damage to the crops.

Response: The probably incidence of deer damage to crops was recognized and is reflected in production costs used in the project evaluation.

7. Comment: Page 40 of the Environmental Statement says that "2.5 miles of stream will be inundated by the reservoir." It should note that that is valuable habitat for furbearers, tree nesting birds, and miscellaneous small mammals, as well as aquatic life.

Response: The area usable for wildlife habitat adjacent to the stream is included in the 637 acres identified as lost by installation of structures.

Forestry Department

1. Comment: We believe the statement adequately deals with forestry concerns including the taking of forest land out of production, management of private forest land, and protection from fire.

Response: None required.

Soil and Water Conservation Commission

1. Comment: We compliment you on the completeness and thoroughness of the Watershed Work Plan, and we concur in full with the plan. We feel the Environmental Impact Statement is also well prepared and fairly represents the situation.

Response: None required.

State Engineer

1. Comment: My staff has worked closely with your staff and the local sponsors and we feel the review drafts of the work plan and environmental impact study adequately describe the proposal and effects within the watershed.

Response: None required.

ORGANIZATIONS:

Oregon Environmental Council

1. Comment: We are pleased with the recognition the DEIS gives to the preservation of the Little Luckiamute River stream channels and their banks. These streams are heavily vegetated on both banks which increases wildlife habitat and the beauty of the area. However, we are concerned with statements which mention controlling weeds and undesirable tree growth in natural channels. Just what is undesirable tree growth? This goal seems to be inconsistent and incompatible with the above-mentioned practices of preserving the stream channels of the Little Luckiamute River.

Response: The statement referred to was incorrect. It is revised to include only the removal of debris jams. No other work on the natural channels, except the diversion dam and the reservoir, is proposed.

2. Comment: We are sorry to see that the relationship of weeds and tree growth between wildlife and their habitat, and the possible biological characteristics in how they relate to water quality, is not discussed.

Response: Since no streambank trees or weed growth removal is proposed, these relationships are important but not relevant to the impacts of this project. See response to comment 1.

3. Comment: The DEIS does not provide a detailed map showing the exact location of the different structural measures. A few drawings or pictures giving the general features of the project would be helpful in determining to what extent the proposed action would disrupt the "natural visual environment."

Response: The project plan and EIS are now combined in one document and include a photomosaic, pictures, and drawings to help illustrate the proposed action.

4. Comment: We are also concerned about the effect the diversion dam and canal would have on the falls at Falls City. These falls are one of many unique attractions in the local area. However, from the DEIS it is hard to ascertain the possible effect these structural measures would have on the falls. We believe these falls should be preserved and the area surrounding them maintained in order to preserve and enhance the beauty of the area.

Response: The only effect on the falls will be a reduction of flow during the high flow period. Low flows will not be affected. The project effects should all be favorable to your desire to preserve this valuable resource asset.

5. Comment: Finally, in regard to the aesthetics, we question the DEIS in its statement that the land to water ratio will be increased. How did the DEIS arrive at this conclusion and what will the new ratio be? Presently as it stands, this project seems to be counterproductive in that it will decrease the ratio by flood prevention and yet it will increase this ratio as a result of the reservoir. Consequently, we believe the DEIS seems to be making a big issue over what seems to be a very small increase in the land to water ratio. Therefore, the figures and justification behind these DEIS statements should be presented.

Response: Visual quality of the landscape is considered to be enhanced by having a combination of land and water. The flooding of land and facilities by uncontrolled flood water cannot be considered visually beneficial. The project reservoir will provide a body of water with a 340 to 440-acre surface all year long. This is particularly important in the summer and fall when the only visible water is a trickle in the streams and a few 1 or 2-acre farm ponds.

6. Comment: In this project, the policy of recreation is of major concern to us. We agree that the need for recreation does exist to some extent; however, too much recreational use can be just as harmful on the wildlife and environment as any other activity of man. Our concern here is the projected capacity of 420,000 visitor days a year with a peak load per day of 6,600 visitors. This is quite an influx of people for a small town of 800. We believe that with this many people projected for recreation alone, the quality of the environment would be lessened by an increase in air, noise, water and land pollution. We sincerely believe this projected capacity is overstated.

Response: A misunderstanding in terminology caused an incorrect interpretation and use of data supplied by the Regional Park and Recreation Agency of the Mid-Willamette Valley. The 420,000 figure should be identified as annual activity days and not as visitor days. The correct estimated annual visitor day use is 210,000 with average annual benefits of \$398,250. The plan and EIS have been changed in numerous places to correctly identify this use and benefit. There is no question that the impacts you mention will to some degree occur and they are recognized in this EIS. Unavoidable adverse impacts are part of the trade-off which must be made to accomplish badly needed economic improvement and the different kinds of environmental improvement; such as, lesser flooding; an attractive body of water; green, irrigated fields; and fishery enhancement.

7. Comment: There are several instances in the DEIS that mention future developments and expansions to provide for the expected increase in recreational use. This needs to be more specific and include information such as where the expansion and

developments will be, how will the land be used, and is this increase really forthcoming. There can be only so much recreation in a limited area before it has a negative effect. Consequently, a loss in recreational and aesthetic values would occur.

Response: It is not intended to expand the area of recreational development. The statements referred to are revised to clarify that the design will allow for the addition of facilities within the recreation area as future needs may develop.

8. Comment: It was mentioned in the project purposes and throughout the DEIS that "wildlife habitat of the Little Luckiamute River is to be conserved." Yet as a result of this proposed action, there would be a total loss of 787 acres of wildlife habitat and another 258 acres modified as a result of recreational use. In addition to this, the DEIS states that wildlife is disrupted and their habitat changed as a result of agricultural and logging operations. Because these actions will still be carried on and for reasons mentioned above, we find it hard to believe that wildlife will be preserved. This is far from wildlife enhancement as proclaimed by the project purposes. To nullify this loss of wildlife habitat, perhaps the acquisition of at least an equal amount of land lost as a result of this project should be set aside for a wildlife sanctuary or refuge. This would help some to minimize the negative impact which this project would otherwise have.

Response: The only fish or wildlife conservation mentioned is in relation to the flood prevention purpose and refers to reducing flood damage to wildlife habitat on the flood plain.

The acreages listed are not all lost to wildlife. The 440-acre lake area, the lined canal, and the traffic surface of the roads and parking areas will be lost; but will be largely offset by establishing and maintaining vegetation favorable for wildlife habitat on the area acquired around the reservoir, on the diversion, roads, and pipeline right-of-way; and by improved habitat provided by vegetating eroding logging areas, flood prevention below the dam, and the habitat added by irrigated forage crops on land now largely in grain fields.

Other "preserving" of wildlife relates to provisions in design, construction, and operation of the project to prevent damage to wildlife by these actions.

9. Comment: The DEIS states that new roads, waterlines, and powerlines would have to be constructed. However, the DEIS does not mention where these are to be built. The construction of these measures could have an additional negative effect on the wildlife depending upon the placement of these measures.

Response: These items will be located at approximately the right-of-way line along the west end of the reservoir (see Map -- Figure 3 of the work plan). There should be no significant difference in effect on wildlife from that of the present road and pipeline.

10. Comment: The DEIS also speaks about animal crossings which would have to be constructed across the diversion canal. However, the travel routes of some wildlife would still be disrupted by the reservoir and canal.

Response: This area does not include wildlife migration routes. The only disruption will be to very local paths to and from food and water. New routes will quickly be established with no serious adverse effects.

11. Comment: We agree with the DEIS that the project would be beneficial to some extent to the fishery operation, but it would also have some non-favorable impacts. Of prime concern is the loss of approximately 4 miles of fish spawning area which would be blocked by the reservoir. The projected impacts and benefits should be weighed and compared more closely to demonstrate just how much fish enhancement would take place.

Response: The project mitigation measures, planned by the fishery agencies, are designed to, at least, offset the losses. Enhancement is claimed only for use of the reservoir for rearing of young fish to establish and maintain a new run of chinook salmon.

12. Comment: We agree with the DEIS in its plans to increase plant and tree cover in the watershed where the original vegetation was lost, either directly or indirectly by man. This should alleviate some erosion in the Little Luckiamute River. However, the DEIS is incomplete and lacking some very essential information in its discussion of the watershed and its relation to water quality. For example, the DEIS has not completely or specifically stated the areas of logging, livestock, and mining in the watershed. These areas and how they relate to water quality need to be brought out clearly and specifically. There is also no mention of the waste treatment facilities of Falls City and/or other places in the watershed which could effect the quality of water in the reservoir. The DEIS has also left out some much needed information concerning the septic tank effluent that is proposed to be pumped to drain fields. Even though this is outside the reservoir drainage, all of these operations combined could have a tremendous impact on the quality of water in the area.

Response: Forest land in the watershed which will contribute to the reservoir is nearly all in two large industrial ownerships. They both have long term management plans and are currently thinning their second-growth timber as explained in the Environmental Setting - Cover Conditions section of the EIS. This and future logging will continue unaffected by this project. The logging roads are essentially installed and the operations are being conducted so that they do not cause any significant water pollution. This condition is expected to continue indefinitely with monitoring and regulation under the Oregon Forest Practices Act.

Only a few head of livestock are being raised above the reservoir. There are only a few scattered acres of cropland and the forest land is not grazed by livestock. This condition creates no water quality problems and is expected to continue.

There are no known mining operations presently or proposed in the watershed above the reservoir.

Falls City has no city sewerage treatment facilities. All treatment is by individual septic tank systems. Only a few scattered houses are located in the watershed above the Teal Creek reservoir site. They and any new developments will have approved systems which will not contribute to water quality problems in the reservoir.

The Campfire Girls' Camp Kilowan is located on upper Teal Creek about 2 miles above the reservoir. The facilities of this camp are closely monitored by health and water quality agencies and will not contribute to water quality problems in the reservoir.

The effluent disposal system for the recreational development will be installed to meet all water quality and public health regulations, with an operation plan approved prior to construction.

13. Comment: From the information that is given, we question if water quality will really be increased or erosion minimized as long as logging and road construction continues to be carried on in the watershed.

Response: See response to comment 12.

14. Comment: The DEIS again is not clear and specific enough in how it plans to deal with the solid waste problem. The following information should be given so we can get a better understanding of the impact that solid waste would have on the area:

- A. Quantities and qualities of waste created;
- B. Will hazardous waste be produced;
- C. Has increased solid waste loads from population influx

- been anticipated;
- D. Where will waste be stored; and
- E. The brush that results from clearing--will it be burned or carried away?

Response:

- A. The only solid waste to be created will be from right-of-way clearing and from landscaping of the recreational facility area. All material useable for construction will be utilized by the project. This includes logs, posts, lumber, and brush (chipped for mulch). Useable material not needed will be sold for off-project use. Unuseable material will be buried or burned according to approved regulations for waste disposal.

The project operation will create trimmings from brush and trees (which will be chipped for mulch). Garbage and septic tank residue from the recreational areas will be collected and hauled to regular approved public waste disposal sites.

- B. There will be no hazardous waste created.
- C. No large numbers are expected. Solid wastes will be disposed of by the same disposal method as from existing residences.
- D. No storage is contemplated.
- E. Nearly all brush will be chipped and used as mulch for soil stabilization and landscaping.

15. Comment: The DEIS states that there will be an increase in noise pollution during and after construction. However, once again, there is very little or no factual information contained in this DEIS that concerns itself to noise pollution; and the information that is given is very general and non-specific. This type of information is hardly enough to satisfy our needs in order that we may determine what impact noise could have on the area's environment. Again a few examples of information that should be contained in the DEIS follow:

- A. Present noise levels adjacent to the proposed site;
- B. The zoning and plans for undeveloped lands; and
- C. Ways to monitor noise levels in the future.

Response:

- A. Noise level at the site is what is normal to a small valley with a combination of farm operations, logging access roads and scattered residential development.
- B. The area is agricultural-forestry and very low density residential, both presently and in the comprehensive plan for future land use.
- C. The project operation and maintenance agreement for the reservoir and recreational facilities will include monitoring and control of noise.

16. Comment: In the installation of this project, the DEIS states there would be 14 families, including three farm operations, that would have to be relocated. However, there is no mention of where the relocation would take place. Also, since three farm operations would be displaced, this means that agricultural land would be lost due to the project. Because of growing concern over land use policies, we question if this project would be providing the best possible use for the land.

Response: It is expected that, if people so choose, the relocation will be within the immediate community.

The increase in agricultural production created by project flood prevention and irrigation will be many times the production lost from the few acres of productive land lost by project installation.

17. Comment: The probable development of agricultural and forest land that could take place as a result of this project is another primary concern. As the DEIS states, there is already some residential development that has taken place around the Little Luckiamute River. Our concern here is that this project will create more rampant growth.

Response: Improper growth can be controlled by implementing the comprehensive land use plans and land use regulations which are a requirement, under Oregon statutes, for each county and incorporated area.

18. Comment: Throughout the DEIS there is mention of a comprehensive plan for the area, but it does not tell us what is in the plan. The DEIS should describe the plan so the inter-relationships of the project, the planned future development, and the environment can be determined.

Response: The land use plan for Polk County covers all of the area where project measures will be installed. At this time (February 1975) the plan is in final stages of review and approval. The county is a sponsor of this plan and has provided assurance this project is compatible with and will help implement the land use plan.

19. Comment: Another concern that could have an indirect effect on the environment is the possible influx of families of workers, supervisors, and other personnel that are connected with the project. This influx would also have an effect on the economics.

Response: Due to lack of facilities in Falls City, it is expected that most of the construction people will be housed in the Dallas, Monmouth, Independence, and Salem areas, where their presence will create no measurable impact.

20. Comment: The DEIS states that there are no water resource development projects currently being planned for this area. This is an indirect statement. The Corps of Engineers is studying the Luckiamute River and its tributaries to see what can be done to minimize flood damages and to develop the water resources of the area. So consequently we have two plans that are overlapping. This should be discussed in the Final EIS.

Response: The Corps of Engineers is presently making a study of possible project work on the Luckiamute River. This study recognizes the Little Luckiamute River watershed plan; and the efforts of the Corps, the SCS, and local interests are coordinated and will continue to be. No plan will be approved which conflicts with another Federally assisted project.

21. Comment: The alternatives in the DEIS are almost completely devoid of any factual information which would help us determine the impact these alternatives would have on the area's environment. The following alternatives should be included.

- A. The alternative of other reservoir sites that would be smaller in stature, but would operate in combination with each other should be fully investigated.
- B. The alternative of recreation and land treatment without construction of a reservoir should be mentioned. The recreation activities could include fishing, camping, hiking, sightseeing, bicycling and others. This alternative could coexist along with the project proposed by the Corps of Engineers where boating and other water recreational activities would take place.

Response: These alternatives were all considered and are either covered in the Alternatives section of the EIS; or among the large number of possible actions which do not fall within authorities of PL-566, do not meet an objective of this project's sponsors, or are obviously not viable.

22. Comment: A few resources that would be effected by this project are natural free-flowing rivers and streams, and agricultural and forest lands. These resources are on the decline today for various reasons and unfortunately would be a long-term result of this project. There is also no mention of how this project conforms with the reports done by the Presidential Task Force on Federal Flood Control.

Response: The impacts on these resources are all identified in the Environmental Impacts section.

This project will conform to the applicable concepts in these reports.

23. Comment: We are concerned about the possible development of the area as a result of this project. How strong is this potential? Also, the structural measures of this project as well as the future land policies would be irreversible.

Response: See response to comment 18 regarding land use and development controls.

Irreversible effects are identified in the EIS.

Federation of Western Outdoor Clubs

1. Comment: I do want to register my feelings and offer the support of the organizations listed on this letterhead. --After study, survey of the area and consultation with Dr. Ray Brodersan of the OCE Geology Department, I have come to the conclusion that the benefits outweigh the disadvantages.

Response: Comment noted.

2. Comment: Will the families dislocated by the project be reimbursed an amount per acre that will enable them to purchase comparable land in the same general area?

Response: Yes. Item 2 of the work plan agreement covers this point.

3. Comment: Has any provision been made for the movement of wildlife across the 7500 ft. long diversion canal?

Response: Provision has been included. See planned project section of EIS.

4. Comment: With energy conservation necessary, this plan of recreation close to urban areas will be a real benefit and, I hope, will also benefit indirectly our over-used wilderness areas.

Response: Comment noted.

Sierra Club (Mt. Jefferson Group)

1. Comment: The project is not justified as proposed--and should be reevaluated by a broadly based committee.

The recreation aspects of the reservoir are greatly overrated.

The effects on fish and wildlife are more likely to be adverse than beneficial.

These (flooding) problems can be resolved without the project.

Response: These items all relate to formulation and feasibility of the plan. The plan was formulated to meet the needs identified by the sponsoring local organizations and concerned

agencies for the protection and improvement of the project area (including the Oregon Wildlife Commission). Feasibility was checked by standard analysis methods. See response to OEC comment number 6 on page II-65 regarding recreation use.

The flood problems on this type of flooded area cannot be satisfactorily solved by individual (non-project) action. Spot work may have limited local effect but also frequently have short life and may only transfer the problem to adjacent or downstream areas.

2. Comment: Most of the land treatment measures discussed are already underway and will not be significantly affected by the project.

Response: The land treatment included in the plan is for acceleration of the going application rate and includes many practices necessary to properly use project water.

3. Comment: Page 1. "Annual farm employment will increase by 16,410 man-days". Basis?

Response: Based on increased production, harvest, and transportation to market.

4. Comment: Page 11. Parking space for 825 cars is allowed in the EIS, 560 spaces in the work plan, p. 37.

Response: 825 is correct. Plan corrected.

5. Comment: Page 2, Reservoir area is given as 340 acres in the summary of environmental impacts, 440 acres in structural measures section on page 7.

Response: The 340 acres is the permanent pool size after withdrawal of irrigation and M&I water. Wording changed to clarify this item.

6. Comment: To what degree will stumps be removed from the reservoir area?

Response: Near ground level. See planned project section.

7. Comment: Insufficient detail is available to evaluate the diversion system or the irrigation water distribution system.

Response: Data used to evaluate these systems is in the planning files and is available for inspection on request.

8. Comment: Has the sanitation plan been approved by the Department of Environmental Quality?

Response: The DEQ has reviewed this work plan, and will participate in the development and approval of a specific

sanitation design plan which will be part of the operation and maintenance agreement signed prior to construction.

9. Comment: Will provisions for fish to pass out of the reservoir in April, May and June conflict with objectives of water storage for irrigation?

Response: There is no serious conflict. The reservoir operation plan will cover this item.

10. Comment: On what basis is it claimed that "Recreational activities ... have a small but rapidly increasing impact on the general area"?

Response: From observation of current activities by the recreation agencies.

11. Comment: The claim that the Polk SWCD has an active program that will provide the leadership to accomplish the land treatment and related phases of the project seems to gain little support from the facts that follow. Conservation plans have been developed on only 6 of 60 farms covering about 1 percent of the watershed. Only 20 percent of these planned conservation practices have been applied.

Response: The SWCD has the responsibility and with the impetus of project activities should be able to assist in greatly accelerating the rate of land treatment application.

12. Comment: Why was rowcrop production established in an area where it can be continued only if flood protection is provided?

Response: It is not normally practical; however, present high prices and the probability of project flood prevention being provided have caused some to gamble on flood plain areas.

13. Comment: Why are irrigation benefits claimed for 4,100 acres when only 3,400 acres were signed and paid for?

Response: This was an early "pre-project" sign-up. The additional 700 acres are lands which in the judgment of the local district board will be signed up when land ownership problems (such as estates) are resolved and project costs are firmer.

14. Comment: Why withdraw 2,000 cfs at the diversion dam and return 800 cfs to the river 320 feet downstream?

Response: This permits the diversion of the full 1,200 cfs canal capacity over a greater range of stream elevations in the river without expensive regulation gates.

15. Comment: If there is sufficient natural flow now to irrigate 1,080 acres with a full season of water, why are only 740 acres now irrigated? (page 67). This does not indicate a

great demand for irrigation water.

Response: No reference to "740 acres now irrigated" is included on Table 1A (page 67). This table shows amounts of approved practices applied to date and does not imply total acreage in any one use.

16. Comment: If "Most of the irrigated cropland will be situated outside the flood prone area," how are the large benefits claimed for flood control justified?

Response: Flood prevention benefits will accrue from reduced flood damage on all land (irrigated or otherwise) farm improvements, public utilities, and homes. Also, reducing the flood hazard will encourage an improvement in use and net income from the flood plain area.

17. Comment: Benefit/Cost ratio is only 1.4:1 when secondary benefits are excluded from the computation as they should be.

Response: The inclusion of secondary benefits in B/C ratio computation is the only way that all effects can be recognized in the evaluation. This is the approved procedure for public, resource improvement projects.

18. Comment: Farming costs were developed for a 530 acre farm and 4,100 acres are to benefit from irrigation provided by the project. Does it follow that only 8 farms will benefit?

Response: No. The statement referred to was incomplete. It should have also stated that crop budgets were also developed and used to get costs and benefits for small and medium-sized farms.

Monmouth-Independence Chamber of Commerce

1. Comment: The Board of Directors of the Monmouth-Independence Chamber of Commerce passed a resolution at its meeting on December 11, 1974, supporting the Little Luckiamute River Watershed Plan.

The economy of our area is based on three major industries--agriculture, lumber mills, and Oregon College of Education. The plan will aid all three ... by providing an additional water supply.

We also feel that the humanitarian need for greater food production from each acre of farmland is reason in itself for our support.

Response: Comments noted.

Falls City Comprehensive Planning Committee

1. Comment: Proximity to the great amount of careless recreationists expected to impinge on our public facilities which are sorely inadequate.

Response: Increase in use always poses the need for considering the improvement of sorely inadequate public facilities. It would not be correct to assume that recreationists are careless or that they will not contribute at least as much to the economy of the community as they take from it.

2. Comment: There will be disruption of the city's water mains, public utilities lines, streets, roads and private properties.

Response: These effects are all identified in the plan and EIS. Costs for utility replacement, relocation or modification are included in the plan. Private property owners will be compensated for loss or damage to property by project action.

3. Comment: There will be an increase in the air and noise pollution for a long period of time during construction. Also damage to streets and roads leading in and out of Falls City.

Response: This item is covered in the "Environmental Impacts" section and in the "Protection of Environmental Quality During Installation" section of the EIS.

4. Comment: The Falls City police protection is not adequate to handle the vandalism that is a natural concomitant of large numbers of people. City taxes are not large enough to handle the expense to the public purse and the few small businesses are in no position to expand during these uncertain times.

Response: It is not expected that Falls City will be responsible for policing the area outside the city limits. County and state police law enforcement has met this challenge in many similar situations.

5. Comment: Little or no benefit would inure to the City which would be only a small town to pass through to the recreation area.

Response: Increased business activity, more local employment, new types of water-based recreation nearby, and improved (and more stable) farm income will all provide benefits to the entire community.

INDIVIDUALS:

Eva Burbank

1. Comment: Voters elected to stop this before and officials appointed to carry out this wish should consider a mandate to do that.

Response: The only vote held relative to this project was for dissolution of the water control district which was one of the local sponsoring organizations during early phases of planning on this project. The district was dissolved and is not a party to this plan.

2. Comment: It will cost millions of dollars which property owners cannot afford to struggle with. Large segments of land will be removed from the tax rolls and farmers cannot pay the added water fees per acre. Home owners cannot accept the added tax to compensate for this either.

Response: Far more values will be added than lost to the tax rolls by the improvements encouraged by the project. The increased net farm income will be substantial and far in excess of water fees. The implication that home owners will be called on to pay for irrigation costs is not correct since these costs must be paid by those using the water.

3. Comment: Falls City's water system will be moved and the water we already own in abundance will be bought back through meters. Sewers will be forced upon us when we already have paid for drain fields and required disposal.

Response: Only about two miles of pipeline (including both Monmouth and Falls City lines) will need to be relocated. This old pipe will be replaced with new pipe as a project cost (not a Falls City cost). This relocation will not cause any disruption of service, and will not in any way increase costs or require a change in the type of water service for Falls City. Possible future needs for water or sewerage system changes are entirely dependent on the future growth and needs for the residents of Falls City. Whether a change is needed and feasible will be their decision and will not be forced on them by this project.

4. Comment: Who will benefit from these recreation areas we can't afford to build, police, nor keep in repair from vandals?

Response: It is expected that the heaviest use will be by residents of Polk, Marion, Benton and Yamhill Counties. Visitors from other Oregon areas and tourists from other states will also use the facility.

5. Comment: There will be an increase in vandalism, litter, and drug use problems caused by the influx of people drawn by the recreational development.

Response: These are all very real problems associated with any concentration of people and they are recognized in the EIS. The operational plans will include provisions to control these problems in the project facility areas and to minimize effects on adjacent areas.

Leslie E. & Larry E. Davis

1. Comment: I am against this project for several lengthy reasons which I will not go into at present. We (my husband and I) wished to express our negative feelings to you so you would realize it is just not wanted.

Response: Statement acknowledged.

Mrs. Vert Ellis

1. Comment: As a resident of that area who would be displaced and in the center of the lake, I strongly object to this project. I sincerely hope that the project will be stopped before any more expense has been reached.

Response: Provisions are included in the Work Plan Agreement and in cost estimates to assure equitable compensation for displaced people.

Ida M. Estelle

1. Comment: This comment is principally concerned with preserving the rural and natural beauty and with liveability of the area.

Response: There will be changes in these items caused by this project. Provisions are included in the Work Plan, and will be in the installation agreements, to protect these important assets of the community.

2. Comment: Only a portion of our farmers and land owners are behind this proposed project. No doubt your department hears mainly from the hopeful ones.

Response: The local sponsors of this project are public bodies with officials elected by the people of the area. We must assume they represent their constituents and, therefore, have

the mandate and capability to make project decisions and to carry out the responsibilities they have assumed.

3. Comment: The studies and cost figures are several years old and do not reflect today's expenses and costs of building. Then we have a maintenance of the project cost and policing cost that will surely follow (the use by) these happy people who will be away from their home base having a heck of a good time on our tax dollars.

Response: The costs, benefits and the feasibility evaluation have been checked using current prices. See the Work Plan Addendum, Part 1.

Federal funds will pay a substantial part of the project costs. One of the principal reasons for Federal funding is that a substantial part of the use and benefit from this type of project is by other than the local residents. Conversely the residents of the project area also use facilities developed with Federal assistance in other areas.

Mr. & Mrs. Robert A. Grenier

1. Comment: "Don't let this happen!" --- We feel if you dam up the natural waterways it will spoil the natural balance and beauty of the land. Also, if this is done to create "man-made" lakes for resort areas it will deface the land by over crowding. Oregon has lots of natural areas to offer people without making anything new. The resorts would bring people in and spoil the small towns of yesteryear.

Response: The building of a multiple-purpose reservoir will bring many changes to this area some of which are mentioned in the comment. The proposed project was evolved to meet pressing needs, and while efforts will be exerted to minimize adverse effects, some values must be forfeited to permit the gaining of others. Both favorable and adverse effects are identified in the EIS.

W. C. Hatch

1. Comment: The project has been dreamed up by farmers wanting irrigation water. Because the irrigation project is not economically feasible, they have cranked in a grandiose recreation plan. The idea is to charge the greatest share of the cost to recreation. Their plans envision thousands of visitors per day. This doesn't make sense. How many people will come to this little puddle for water-oriented recreation when by travelling a few miles further they get to Detroit Reservoir?

Response: The percentage of total costs allocated to each purpose is the percentage of total capacity used by that purpose. Therefore, each purpose will pay for its share only.

A study by the "Regional Park and Recreation Agency of the Mid-Willamette Valley" provided the number of recreation visitor days of use, and the need for this type of recreation at this location.

Detroit Reservoir is about 80 miles from the Teal Creek site and is a cold water lake in a mountainous setting.

2. Comment: As per irrigation, if we are to spend money for water, let us put it on to dry land instead of land that has water most of the year. The same amount of money spent in bringing water to arid land will bring in several times the increase in crops.

Response: This is generally not the case. The crop production increase per acre foot of water and the net income realized per acre are generally higher on areas like this project where farms are already developed and the water is supplemental to natural precipitation.

Edward Headrick

1. Comment: I like everything about the area I live in now and so do my wife and four children. We are against this proposed man-made lake that will have recreation on it and will draw thousands of people to the area we live in. I know that there are some farmers in the proposed lake area that are pushing for the lake; they plan on getting rich and don't care about people who are very happy to live in happiness in this very nice, quite rare part of yesteryear Oregon.

Response: The project will bring changes to the area in order to meet the objectives of the local sponsoring organizations who represent all people in the area. It is expected that while the reservoir may detract from some aspects of the liveability of this area, it will also contribute favorably to others. These impacts are identified in the "Environmental Impacts" section.

2. Comment: If that darn lake goes in, big outside money will come into this area and property taxes will soar out of sight. People who feel as I do will be forced to sell out if the lake goes in, because they will be unable to pay the higher taxes the lake will bring to the immediate area.

Response: Responsibility for setting property tax rates is vested in local government. A project of this type will enhance property values and improve the tax base for the area. The decisions local people make on local needs and budgets determine whether the assessment rate will increase or decrease.

3. Comment: This darn lake was voted out by the people a couple years ago. That should have been the end of it, but here it comes again.

Response: No vote has been held for acceptance or rejection of this project. A local water control district, which was one of the early sponsors of the project, was dissolved by a vote and is not now a party to this plan.

Lladona H. Kallestad

1. Comment: I fear the environmental impact on the only incorporated community contiguous to the area involved. Falls City has a tax base that is sufficient only to stay solvent and any local expenses that add to the tax burden, such as greater police protection, more costly street and road maintenance, and related costs will drive the taxes even higher.

Response: Responsibility for setting property tax rates is vested in local government. A project of this type will enhance property values and improve the tax base for the area. The decisions local people make on local needs and budgets determine whether the assessment rate will increase or decrease.

2. Comment: There is a provision in the "Diversion Canal" portion of the Work Plan which requires the removal of some 14 residences from those tax rolls, still further increasing the present skyrocketing rates.

Response: The 14 residences referred to are in the reservoir area (not on the diversion canal location) and are not within the city limits of Falls City. The owners or renters of these houses will be compensated for any value lost and will be assisted in obtaining as good, or better, housing in the community. Costs for this item are included as project land rights and relocation costs. See the Work Plan Agreement, items 1 and 2.

3. Comment: Falls City has no "slum" or "ghetto" areas but the grandiose plans would soon create such an area on the southern outskirts of the village which is now largely agricultural, pasture, tree-farm or residences that enjoy a self-sufficiency.

Response: There is no basis for assuming development of slum areas. The project controlled land will be developed and maintained to provide esthetically pleasing areas. The adjacent areas will be subject to controls available through city and county land use and zoning laws which are locally controlled.

4. Comment: Not even the most sanguine proponent can imagine any cultural or financial benefit to the city to offset the cost to the city. Don't wreck it!

Response: As the only nearby town, Falls City will have an increase

in business activity and income, an increase in tax base, and a lake at the door for the many people who enjoy water-based recreation.

5. Comment: Has any member of the Falls City governing body, collectively or individually, been briefed in depth on the true final environmental impact on the city in practical terms? If so, when and who was contacted? Has anyone in authority and fully cognizant of all the factors to be encountered been over the ground on foot in company with a knowledgeable citizen of Falls City to learn and digest what the eventual impact would be?

Response: A representative of the Falls City city council has been on the project steering committee during development of this project plan. Information has been provided to the Mayor both by correspondence and personal contact. See EIS section on Consultation and Review for additional details.

6. Comment: Has a financial or profit-and-loss status study been made of projects similar to the one under consideration? From all the information so far obtained, few or none have shown an adequate profit, leaving the County holding the bag, tax-wise.

Response: Nearly all of the project evaluation is made by using data from similar projects and experience from other areas. Polk County is one of the sponsors of this project and its responsibilities are defined in the Plan. The County has no liability for any default except on items it accepts as being within its authority and responsibility.

7. Comment: In view of the present and future uncertainties in the economy, inflation, material shortages and related facts, the whole project should be shelved or abandoned completely and permanently. It appears that a champagne price tag is being forced on a community which has funds for only a short beer.

Response: See response to previous comment.

8. Comment: The document is termed a "draft" and "work plan" and as such it would seem to be flexible; however, the compulsory term "will" is used throughout instead of the permissive "may" and I personally interpret that to mean we are to be victims of a "fait accompli"; I resent that - it smacks of demagoguery.

Response: "Draft" plans are designed to be "proposed" plans which are often reviewed, revised and edited several times before the final version is obtained and approved. No "fait accompli" is implied.

Judith L. Koziseh

1. Comment: The comment expresses concern for any loss of esthetic assets with particular concern for preserving natural beauty of land, water, and wildlife as it now is found in the watershed project area.

Response: These values are a very important part of the human environment and should be protected from unnecessary loss. Installation, operation, and maintenance of the project will be closely monitored to minimize adverse effects.

Joseph and Marylou Matteo

1. Comment: More recreation projects are probably not needed. If one is going to be built anyway, at least put it in a desirable place such as the Willamette River Greenway.

Response: The proposed recreational facilities are part of a multiple-purpose reservoir development and will provide different types of recreational use than can be obtained along the Willamette Greenway. Need for additional water-based recreational developments is identified in the State Outdoor Recreation Plan and the needs for this specific area were identified by the Regional Park and Recreation Agency of the Mid-Willamette Valley.

2. Comment: According to the Teal Creek DEIS this project calls for 2 reservoirs, Teal Creek and Grant Creek, 2 recreation developments, 94 acres of stream-side easement, and 10 farm ponds. This is far in excess of the one dam that the promoters are so fond of speaking of.

Response: The proposed plan includes only 1 reservoir and 1 recreational facility (on Teal Creek). The other items listed were included in the alternatives considered but not selected.

3. Comment: Plan makes mention of 6 restrooms and 6,000 to 10,000 people per day using them. With each flush, Polk County is left with more waste that according to the plan is to be pumped out of the area. Where? Into what? A truck? A Moat? A septic tank? Perhaps a county wide sewer system? I can't guess which since no reference is made to the cost.

Response: Septic tanks will be installed at the restrooms. Effluent will be pumped through a pressure pipeline to a nearby area where space and soil types permit installation of a drain tile dispersal system with no chance for drainage contaminating the reservoir or stream. Costs for operating this system are included in the Operation and Maintenance costs for recreational facilities.

4. Comment: Recreation and fish enhancement costs are to be paid by a countywide advalorem property tax with some contribution by fishery agencies and recreation user fees. How much is coming from the fishery people? Plan states fishery benefits of \$40,140. This only a paper figure and Polk County would never see any of it. How much of the \$630,000 claimed for recreation is just another paper figure?

Response: Polk County has the responsibility for financing the non-Federal share of fishing enhancement costs. However, as stated in the Financing Project Installation section of the plan, the county will seek financial assistance from the state fishery agencies. The extent of state assistance has not been committed yet but will be negotiated prior to installation of the reservoir. The benefits are based on enhancing the salmon, sport and commercial, fishery of the Willamette and Columbia Rivers. Polk County residents would be included in the regional beneficiaries expected to benefit from this enhanced fishery. The recreation benefits are based on the estimated use of the development as designed with values set by national guidelines for recreation evaluation. See response to OEC comment number 6 on page II-66 for revision of use data.

5. Comment: According to the plan, sport fishing of 3750 angler days and 31,500 lbs. of commercial fishing will be provided at the coast. This is not in Polk County and the coast does not pay taxes to Polk County, but Polk County is supposed to buy them fish.

Response: See response to comment 4.

6. Comment: The plan mentions 2,940 acres of flooding. How much of this would be eliminated?

Response: Essentially all of this area will still flood during a major flood. The effect on smaller, more frequent floods is covered in the Environmental Effects section of the EIS.

7. Comment: The picture of the flooded out farmstead in the Work Plan is of the Cutting house and whether the dam is built or not would not matter in the event of another flood. The Cutting house is on the Big Luckiamute.

Response: The picture was included in the problems section to represent a type of problem in the watershed area and was not intended to represent a specific benefit of the project. The house is in the Little Luckiamute watershed but is in the lower reach which is also flooded by backwater from the Luckiamute River. The picture is removed from the EIS to prevent misunderstandings.

8. Comment: According to the plan, flood prevention and irrigation benefits of \$280,990 will accrue to 65 agricultural landowners in the watershed area. Who are the 65 landowners? There are

only 28 landowners members in the District. This includes the chairman who has 2 acres and a dead woman whose 7 acres was split into 2 chunks and sold to 2 different people, neither of whom farm. This gets us down to 26 owners or less who may want to use the project of \$12,745,000. This figures out to \$528,654 per farm. A rather high price to pay, I should say. If there is any value at all to the project, it has to be in irrigation, if that is even needed. However, none of these farms are worth anywhere near one half million dollars.

Response: The 65 landowners include all beneficiaries of flood prevention and irrigation. It is not a reference to the number of incorporated members of the Improvement District. The costs applicable to these 65 beneficiaries plus a considerable number of secondary beneficiaries would be the \$2,430,865 flood prevention and \$2,155,640 irrigation costs.

9. Comment: The plan only allots \$280,990 to the irrigation and flood prevention benefits. Costs, also (from) the plan, are \$345,610, a difference of \$64,620 in the minus column. This is like going to a bargain sale and buying goods that are marked up. Then going home to brag about how you were able to get \$30 worth for only \$35.

Response: The \$345,610 is the estimated total average annual cost for all purposes to be borne by other than P.L. 566 funds. The correct benefit for comparison with this cost is the total benefit of \$1,201,810 which gives a net benefit of \$856,200 annually.

10. Comment: This project is to solve much of the erosion in the area. Maybe it will. At a cheaper cost however would be proper conservation practices.

Response: The erosion control is to be accomplished by proper conservation practices. The project will provide a way to accelerate the rate of application. See Table 1.

11. Comment: Drainage mains and tile drains are mentioned in the plan to be used on farmer member land with SCS assistance. This is nothing new and a Teal Creek Plan isn't needed to get this cost sharing.

Response: The plan will be the basis for obtaining additional funds to help accelerate the application of these practices.

12. Comment: Under employment decrease the plan states that no jobs will be lost. This is incorrect. There are 100 acres of forest land, 300 acres of pasture land. There are 3 farms. To day that no jobs are being lost, we must state that no money is being made from any of this land.

Response: The Regional Development Account is amended to show loss of 4 man-years of employment annually and the net gain in employment annually is reduced from 147 to 143.

13. Comment: 637 acres of wildlife habitat for birds, small animals and over 2500 deer will be lost forever.

Response: Loss of wildlife habitat covered in Environmental Impacts section of the EIS.

14. Comment: The plan will "Decrease potential forest fire hazard." The only way this can be done would be to burn down the forest first, then there would be no fire hazard.

Response: Project land treatment includes fire protection items with an estimated cost of \$52,130. These are primarily for early detection and suppression of forest fires which should decrease the acreage burned by forest fires. The wording is changed to reflect this effect.

15. Comment: Mud flat areas will exist according to the plan. No mention is made of mosquito and midge controls although both will exist if allowed to breed in the area are capable of spreading diseases.

Response: An item is added to the Planned Project section requiring drainage and treatment of these areas. See page II-8.

16. Comment: Who is going to pay for the new waterlines and powerlines? Polk County can be counted on to be the money bag for the new roads needed according to the plan but will they be equally generous with the powerlines and waterlines?

Response: All costs for utility relocations (including roads) are project costs, and will be cost shared by Federal and sponsors funds at the same rate as land rights are shared for the project structure causing the relocation. (See the "Explanation of Installation Costs" section of plan).

17. Comment: Very little mention is made of the havoc created by a canal cutting through Falls City.

Response: Effects of construction activities, wildlife crossing, and visual impact are covered in the Environmental Impacts.

18. Comment: Plan states that Monmouth needs more drinking water for future growth. If this is true, let Monmouth drill more wells. Perhaps Monmouth had ought to look into whether more growth is actually desirable before committing itself. Growth carries more liabilities than benefits with the cost of schools and other services.

Response: The City of Monmouth is a local sponsor of this project. The data on amounts of M&I water needed by Monmouth was supplied by the city officials who have the responsibility to consider the concerns expressed.

19. Comment: Implied in this plan is that it will get rid of the nutria. This is not true. In fact the project may very well help them to multiply. It will provide an excellent habitat for them.

Response: The only references to nutria are in the listing of wildlife inhabiting the area and the narrative on wildlife problems. No implication is made that the project will rid the area of nutria. No significant effect is expected.

20. Comment: Plan states temporary "traffic congestion, hazards to wildlife, increased noise, air pollution and stream turbidity" only during the construction phase. Any time you get 6,000 to 10,000 visitors a day all these conditions will exist.

Response: The EIS includes an item on the environmental effects caused by recreation visitors.

21. Comment: If the dam goes in, it wouldn't be long before one vertical rock wall bore the statement, "Jesus Saves." The opposite wall would say, "God is Dead." The trees would be charred stumps, the hillsides lined with potato chip bags and the foot of the falls loaded with whiskey and wine bottles. I much prefer to keep it the way it is now.

Response: The prevention of litter on the project controlled areas will be handled by project O&M. Other adjacent areas will cope with this through regular policing activities. A reference to the litter problem is added to the environmental impacts.

22. Comment: I question the cost benefits ratio. It appears to be based on 1971 figures. No inflation has been figured in.

Response: The price base used in the plan is 1970. The work plan addendum gives an updated benefit cost ratio.

23. Comment: No one wants to live below a 110 foot dam, yet no plan seems to be made to relocate these people.

Response: Since the express purpose of a flood prevention dam is to reduce flood hazards, it follows that people living below the dam will be safer and have fewer problems than could be expected without the dam.

24. Comment: Plan says transportation facilities in the area are good. They aren't bad except for the pot holes in the roads, but if 6,000 people per day were ever to descend on the area we would have pot holes you could hide a bulldozer in.

Response: Added traffic is recognized in the "Environmental Impacts."

25. Comment: Plan puts brush land at \$75 to \$100 per acre that is suitable for forest land. Home sites are \$250 to \$400 per acre. The area has a five acre minimum over much of it and if you put an ad for 5 acre tract for \$1250, we really would have 6,000 people in one day here. Prices in the area have run \$4000 to \$5000 and more for 5 acre tracts.

Response: The prices quoted are 1970 prices. A recheck on land values finds that even for 1970 the prices quoted in the plan are low and are changed for residential sites to \$400 to \$800 per acre.

26. Comment: Let's use the alternative plan spoken in the DEIS, the one that calls for no plan at all. Let's stop "Progress."

Response: The local sponsoring organizations who are the elected representatives of the people of the project area have chosen this plan of action. See section on consultation and review with appropriate agencies and others.

Hunter McConnell, Jr.

1. Comment: The Teal Creek dam project basically sounds good until you look at the side effects. First, I understand it would disrupt the present Falls City water system in several ways, all detrimental to the users and the taxpayers. It would require expensive changes in the water transmission system. Any change would certainly entail increased cost as well as possibly meters with most of the expenses to be borne by the users.

Response: All costs for relocating a short section of city water main will be paid by project funds with the city getting new pipe at no cost to the city. The possibility of the city metering its system or incurring other expenses for needed improvements has absolutely nothing to do with this project.

2. Comment: One think the river does not need is a dam. It would cut down on the usage it now gets by fishermen, and local children who swim as well as fish in it.

Response: This is a diversion dam only and will only function when flows are high. It should not, in any way, detract from the listed uses of the Little Luckiamute.

3. Comment: Second, it would naturally attract many outsiders who, for the most part, would have no respect for the local life-style and would cause changes in many ways. It would be difficult to protect the environment with so many transients.

Response: Most of the "transient" visitors referred to will be recreation visitors using Teal Creek Reservoir. The recreation areas will be operated and maintained to properly handle this use with a minimum of adverse environmental effect. See O&M sections of Plan and Environmental Impacts section for area wide impacts.

4. Comment: The attractiveness of property in Falls City would naturally cause the values of such to increase all out of proportion, again causing taxes to increase. Oregon property already is quite attractive to Californians without adding more incentive. I believe that it would be California speculators that would make the most profits at the expense of Oregonians.

Response: Porperty values in Falls City and other areas affected by the project will, as stated, probably increase in value which will improve the tax base, but not necessarily increase taxes which are set by local budgets. Local landowners can undoubtedly hold their own against "California spectators."

5. Comment: Naturally, all these transients would cause a buildup in the businesses but they would require many different services, the cost of which would be borne by the local taxpayers for a good portion.

Response: If improved business requires extra services which will be undertaken by local government or private individuals, it will be their option to establish what and how much is needed and whether it can be paid for. This project will not dictate any requirement for these services.

6. Comment: The other project, sewers for Falls City, seems all out of reason. There is no absolute need for them since the home sewage systems in use now and already paid for are working adequately.

Response: This project has no part in any proposals which may have been made for installing a city sewerage system.

7. Comment: It seems that outside influences are trying to change Falls City and the surrounding area to their benefit and to the detriment of the city of Falls City, the people that live there and have grown up there and all those that now enjoy visiting there, and all this inspite of the need to preserve the natural and beautiful environment that we have.

Response: The sponsors of this project are local organizations with elected officials responsible to all the people they represent. The EIS section on consultation and review outlines many of the actions taken in developing this plan.

Mr. and Mrs. Ross Murphy

1. Comment: Considering that it is just above our farm, we feel there would be too much noise, also we found out that right at the side of our place they are considering a camping grounds.

Response: The occurrence of noise is acknowledged in the EIS Environmental Impacts section.

2. Comment: There is not enough water in Teal Creek to merit a dam.

Response: The Teal Creek Reservoir is planned for regulation and storage of water from both Teal Creek and by diversion from the Little Luckiamute River. See Planned Project section of EIS.

3. Comment: We voted this same dam down once, now what I want to know is just what good does it do us farmers to vote on a thing.

Response: The only vote related to this project was to dissolve a water control district, not to eliminate a project. See Consultation and Review section of EIS.

Mrs. Selma Parker

1. Comment: There's not that much water in that (Teal) Creek.

Response: Extensive hydrologic studies, made during planning this project, established the amounts of water in Teal Creek and the Little Luckiamute River. See Water Resources section of EIS.

2. Comment: Too many people will lose their homes.

Response: The number of people dislocated by project actions is identified in the EIS Impacts section. Costs for purchase of the property and to assist in relocation to new homes is included as a project cost. (See Work Plan Agreement.)

John Qualey

1. Comment: First of all, the cost figures they submit are completely out of line. I have seen much smaller projects cost nearly twice this amount, and that was before the inflated costs of today.

Response: Both costs and benefits have been checked using current prices. Prices have increased substantially, with the increase averaging between 7 and 10 percent annually. (See Addendum, Part 1, for benefit to cost ratio with current prices.)

2. Comment: The cost per acre for water is not mentioned in this booklet, but it has been brought out before. The cost they published first of \$17.00 per acre for water make it prohibitive to all but a few farmers who can raise row crops or mint or the like.

Response: These costs per acre are well below the average costs for recent irrigation developments with similar service provided. Direct benefits to water users will be in excess of twice the cost.

3. Comment: A dam in the Black Rock area I think may be practical, at least it would not be taking farm land out of production at a time when food shortages are becoming a reality.
I know they will come back with the argument that the extra water will make up for the loss of acreage, but a dam in the Black Rock area would provide all the benefits of the Teal Creek dam.

Response: The extra water will make up for the loss of acreage. The Black Rock site has major hazardous site conditions which would cause serious safety hazards and high costs. See alternatives section of EIS for discussion of this site.

4. Comment: They predict a recreational park will bring in revenue. This was brought up a year or so ago, and at that report it was brought out that every park in the state with the exception of one was funded by tax money.

Response: The comment is correct. However, it was not expected that recreation would be a profit making item. Normally this type of facility can have enough revenue to pay operation, maintenance, and a small part of capital repayment. The balance of capital costs must come from Federal, state, or local public funds.

Kaye Richardson

1. Comment: Reference is made to the project alleged irrigation of 4100 acres. The map in the Work Plan (Figure 5) indicates distribution lines, etc. for this acreage.

This is an improper presentation of acreage and causes all calculations to be based on a false premise. Thus the Cost-Benefit ratio and financial responsibility, as well as the feasibility of the Luckiamute Watershed Plan is in error.

Response: The Little Luckiamute Improvement District, the local sponsor for this purpose, has assured us that the acreage listed is a realistic area and participation of this acreage can be obtained.

2. Comment: The areas shown on the map in the Work Plan are no longer correct, as are not even in the new Improvement District boundaries, for the most part. What is shown on the map is what was the original Water Control District, and that was dissolved by a vote of the people in the District.

Response: The area on the work plan maps are for benefited area not sponsoring district boundaries. Both flood prevention and irrigation benefit areas are included.

3. Comment: Also, part of the 4100 acres signed as interested in irrigation already is being irrigated, so this not "new irrigation" and thus the Cost-Benefit ratio be changed.

Response: The 4100 acres is nearly all presently in dryland crops. A small portion is land with water rights which are recent and inadequate for economical irrigation.

4. Comment: The 28 members and 6500 acres of the Luckiamute Improvement District (a private, non-profit corporation) has the sole responsibility of the "maintenance of the structure" as indicated on page 14 of the Draft Environmental Impact Statement. All liabilities rest with this Corporation consisting of but 28 owners and 6500 acres. I question the financial ability of this particular acreage to stand much liability, nor the desire to do so. I do not think this small Corporation is able nor capable of taking on the responsibilities as outlined on Pages 14, 15, & 16 of the DEIS.

Response: The District has legal authority to assume the responsibilities outlined in the plan and EIS. The members of the District, through their elected officers, have urged approval and installation of this project, and assured that they can and will meet the obligations they accept.

5. Comment: If the 600 acres for reservoir, dam and right of way (is used), the relationship of acreage out of production to area irrigated could jump to 40%, I think.

Response: There will be 895 acres changed to project structural use. The present acreages by use are shown in the Environmental Impact section of the EIS. The project will provide a large net increase in productive capability.

6. Comment: Flood Control - To qualify for multi-purpose use under Public Law #566, Flood Control was slipped into this project as a "benefit". Yet is it? It is admitted that the project would, at best, provide a control protection of but 2%, and it is further admitted by the SCS that there is no way to predict in advance so the reservoir could be drawn down. To say there would be "some measure of control" every other year is an extremely low level. Thus, flood control cannot be used to justify this project.

Response: The source of the 2%, some level of control every other year, and the statement on prediction are unknown. They are not in the plan or EIS. The flood damages from which protection is needed are identified in the Problems section of the EIS. The levels of protection, acreage involved, and benefits are in the various sections of the plan. The environmental effects of flood prevention are listed in the Environmental Impacts section of the EIS.

7. Comment: Irrigation - This too is highly suspect as to benefit upon investigation as a point to justify the project. There is no possible way that the local farmers can pay the total annual costs.

Response: Irrigation benefits will be substantial (see Benefits section of plan). About 60 percent of the installation costs for irrigation will be paid with Federal funds. The irrigation analysis, based on local conditions, indicates that the local share of average annual irrigation costs, including all O&M costs, will be less than half the average annual direct benefit to the irrigators.

8. Comment: Recreation - This also is not a viable purpose of this project, and stuck in to qualify it for Public Law #566 Funds and to make it a multi-purpose project. Polk County has sole responsibility for the maintenance of the Recreation area. This is not financially feasible for the County. We can't even keep the chuck holes filled in the roads, let alone take on a project like this.

Response: The Recreation Problems and Needs section of the EIS describes the needs; while the Benefits section of the plan,

and Environmental Impacts section of the EIS describe effects of the proposed recreation development. Polk County is a local sponsor of this project, has participated in project formulation, and has given assurance that the County can and will accept the responsibilities for the recreational development.

9. Comment: Fish Hatchery - The benefit figures as indicated on page 95 of the 1971 Work Plan are not correct. No consideration has been given in costs to accommodate the Department of Environmental Quality standards for all fish hatcheries to have hatchery effluent water channeled thru a settling pond or handled in some other manner. Water treatment facilities must be installed to accomodate these standards for removal of the waste from hatchery ponds entering a stream channel.

Response: No hatchery is proposed on this project. Fish trapped below the dam will either be passed over the dam or sent to an established hatchery for egg production and rearing of the small fish. Additional explanation of this point is added to the O&M sections of the plan and EIS. The benefits of fishery enhancement are net benefits (with costs of fishery management considered.)

10. Comment: Under Public Law #566 there must be "...support of a large majority of the landowners and citizens of the community." This is not the case. A petition opposing this project was sent to SCS in July 1974.

Response: The local sponsoring organizations represent all the people of this community and have provided assurance that there is widespread support for this project.

11. Comment: Also the original WCD was dissolved by a vote of the people in the District, and this was to get rid of the project insofar as the voters were concerned. As the comment is made over and over, "We voted to get rid of that dam project once, what is it doing back again?" There were 274 votes cast in that election.

Response: The vote mentioned was for dissolving a water control district. This district was voted out and is no longer a party to this plan.

12. Comment: Page 4, Para. 5 - Unless it is going to be by "Bureaucratic Edict," it is quite difficult to understand how fire hazard is to be minimized with the high intensity recreational use anticipated and advocated by the Sponsors of this project.

Response: The intent of the statement referred to (and similar statements on fire hazard in the plan and EIS) is to identify the need for and effect of fire protection measures costing

\$52,130 to be installed as part of this project. They will emphasize early detection and suppression which will "reduce the hazard" of forest fires by reducing acreage burned.

13. Comment: Reference is made to relocation of the Falls City and Monmouth waterlines. I do not believe adequate engineering detail has been given to this, as the total Falls City line would be in need of realignment to the west to a much higher elevation, and probably the entire length from the reservoir north due to the present pipeline being covered by water by the proposed project in the area near the northwest end of the reservoir. The terrain south and west is cut by deep canyons, and would, I think, involve location higher than the proposed Teal Creek road relocation, and thus further damage to the timberland to the west.

Response: Preliminary engineering does not indicate any significant problems in relocating this line. Detailed engineering and design will be done prior to construction and will consider all the possible problems listed.

14. Comment: Part of the Teal Creek road relocation, and in fact most of it, is in the timber on the west end of the proposed reservoir, referred to in the plans as Kilowan Parkway. This is public access through the timberland and into the proposed Recreation area with "high intensity development" according to the DEIS, so thus entice people into the area. There is no protection provided on the west side of the proposed relocated road so access restricted to the privately owned timbered area from the road. This would endanger the forest land further to fire hazard and leave it unprotected. I object to this, as owner of that property. This is an adverse Impact to be considered.

Response: This road is not planned for access to the recreation area. It is beyond the facility areas and is to replace the road to upper Teal Creek which will be inundated.

15. Comment: There is no mention of the Christmas Tree Plantation of approximately 90,000 trees (and more planned) which is to have trees left at certain spacing so the end result will be a timber stand. This property is owned by Phillip Jones. There is no mention of our trees planted for re-growth in the area of "Kilowan Parkway."

Response: The Christmas tree plantation and trees planted for regrowth are both included in the forestland portion identified as being flooded by the proposed Teal Creek reservoir in the Environmental Impacts section of the EIS.

16. Comment: There is no provision for protection of my home which adjoins the north edge of the recreation area, called "Falls

City Meadows."

Response: The recreation area will be fenced to protect it from improper entry and for management reasons, and to protect adjacent property from trespass. This statement is added to the Planned Project section of the EIS.

17. Comment: There is no provision for an outlet for my homesite. Our business customers would be barred from access. The proposed park area blocks off the street from me, and any security fencing would further block me off.

Response: The existing road system will not be barred by the project except for that portion of the upper Teal Creek Road inundated by the reservoir. The property mentioned will not be barred from access.

18. Comment: The probability of vandalism to private property is left unprotected as well and uninhibited access to this property by all the undesirables that frequent parks. It actually would not be safe for me to live in this house if such a "high intensity" recreation area were established. The City Limits line (also the North Recreation line) is in the yard and within a few hundred feet of my front door. I object to this. The Impact is not being considered. It should be.

Response: This project will not open access to any areas except the project recreational facility areas. These areas will be fenced and properly policed by the organizations responsible for their management. Areas outside of the project boundaries will be policed by the local organizations responsible for this function. Disruption of the tranquility of this rural area is identified as Environmental Impact in the EIS.

19. Comment: Reference is made that "All septic tank effluent will be pumped to drain fields outside of the reservoir drainage." A question is: Pumped to where? There are six rest-rooms shown, and with 6,000 people per day estimated, that would be 1,000 people per rest room. Peak visitor days are expected to be 10,000.

Response: The drain field mentioned will be located where drainage from this field cannot affect the reservoir water quality. The system will be designed to meet all requirements of the public health agencies, and will be installed, operated and maintained with project funds. Costs for these items are included in the cost of installing recreational facilities, and in the project operation and maintenance costs.

20. Comment: Reference is made that allowance is made "... for future expansion which can be made efficiently." Future expansion in what direction? Further into the timberland? If so, this is further encroachment on the timberland and endangering it.

Response: The statement referred to was intended to cover possible expansion of internal facilities (such as more picnic tables, swimming areas, etc.) to meet future needs, and was not intended to mean an expansion of the recreation area size. The statement is changed to clarify this point.

21. Comment: Page 33, para. 2 - Just because there isn't one, doesn't mean we are dying to have one, is my idea to the statement that there's not recreation development in the Little Luckiamute Basin. I think the need for one is in the eye of the professional recreation developer. This is a working forest area and not for highly intensified recreation as advocated by this Impact Statement and Work Plan being reviewed.

Response: The development of additional recreational facilities to meet a need for water-based recreational use is one of the objectives of the sponsors of this project. The EIS section on Problems and Needs identifies the need for recreational development.

22. Comment: This brings us to the discussion of Fire Hazard. This liability is brushed past and even brazenly listed as a benefit (page 39), in considering the proposed project by the impact statement.

Response: The statement referred to is revised to reflect a decrease in the hazard of larger areas being burned instead of the hazard of fires being started, which is not the intent of this item. Project measures include accelerated fire protection facilities to provide early detection and suppression of fires. Project costs of \$52,130 are included for accelerated fire protection facilities.

23. Comment: Page 6, para. 6 - "Accelerated fire protection will be implemented where increased use is expected." In detail, what is meant by "accelerated fire protection"? A double barrel carburetor on the fire truck to speed it 12 to 15 miles out of Dallas? A large body of water is small protection to the rugged terrain to the west.

Response: A fire protection plan developed in cooperation with the agencies responsible for fire protection will be a part of the operation and maintenance agreement signed with the local sponsoring organizations prior to installation of the recreation facilities and other structures in this project plan. It is expected that this plan will include installation of fire fighting equipment in the recreation areas and at

other locations throughout the area to promote early detection and effective suppression of fires. The reservoir and irrigation distribution system will provide a readily accessible source of water for fire suppression.

24. Comment: Reference is made to land treatment measures to be installed on forestlands. Are these voluntary or mandatory?

Response: The installation of land treatment measures is voluntary.

25. Comment: Page 15, Item 5, para. 3 - "The operation of the reservoir will be coordinated with the Oregon State Department of Forestry to meet fire protection needs of the area."
Details are strangely omitted.

Response: See response to comment 23.

26. Comment: The statement on page 39 under "Favorable Environmental Impacts" - to "Decrease potential fire hazard," is in error.

Response: See response to comment 23.

27. Comment: There is no mention nor consideration of the area from which top soil is sold and which would be under water from this proposed project. The impact of the loss of the top soil availability and the loss of the area to tree growth should be considered. It has not been.

Response: This impact is an economic impact, not an environmental impact. The cost for acquiring the land on which this activity is involved is included as a project land right acquisition cost for the reservoir.

28. Comment: There is no mention of our shale pit from which rock is sold and would be damaged by this project.

Response: See response to comment 27.

29. Comment: There's no mention as to the dislocation of our logging road system, which has been designed to funnel into the Teal Creek Road. All this would be dislocated and is something to be considered in an Environmental Impact. These points are not considered, nor covered.

Response: This item is also an economic impact and if there are relocation costs caused by changes in the road system, the cost of correcting these problems can be considered as a land rights cost for the reservoir.

30. Comment: What is meant, recreational use might be utilized on the landscaped area where the diversion canal is covered? This for a length of 700'. How wide is this right-of-way? It would seem to me that a rousing game of tiddly-winks might be about the best that could be drummed up even by the Regional Park Agency, for this landscaped strip.

Response: This area can be maintained as a landscaped green belt area preserved for this use within the city limits of Falls City. The strip will be approximately 100 feet wide, depending on the exact final design of this portion of the diversion.

31. Comment: Page 41, last item - Reference is made to the fact the reservoir will be drawn down to create a "temporary" mud flat area each year. A temporary mud flat of about 4 or 5 months duration, especially for those located inside the city limits on north edge of reservoir (mud flat) area at the northwest end. Besides a big stinking mud flat, in their front yard, it would also be a breeding ground for mosquitoes. I don't see any mention of mosquito control in this impact statement or any recognition of the existence of mosquitoes. Considering the use of insecticides that might need to be used for control, should think that would belong in an Environmental Impact Statement.

Response: The Planned Project portion of the Environmental Statement has been revised to include a statement on shaping of the draw down areas to provide proper drainage for recreation access and to prevent the instance of mosquitoes in ponded water areas. Since this reservoir will be used for recreation and for domestic water supplies, it is not expected that dangerous insecticides will be used for insect control where they may contaminate the water. The requirement that operation of this reservoir meet all public health standards covers this item.

32. Comment: Alternatives mentioned and declined in the Statement, page 43 - Irrigation by Pumping from the Willamette River. The figures shown in this paragraph need revision. Most wanting irrigation, and those in the new Luckiamute Improvement District, are located in the lower part of the Little Luckiamute area, so there (would) not be such a long line needed and there would be a smaller acreage than 4100 acres. This factor needs (to be) re-evaluated in the above light.

Response: See response to comment 1 regarding acreage to be irrigated. This alternative was considered and described with the reasons for its rejection in the Alternatives section of the Environmental Impact Statement.

33. Comment: Channel Enlargement, page 43 - With a dam or series of holding dams on the Big Luckiamute as proposed by the Corps of Engineers, the objection stated regarding "Backwater from the

Luckiamute River would limit the benefits in the lower reaches of the Little Luckiamute River flood plain," would change the situation.

Response: The Corps of Engineers is presently considering the possibility of a project on the Luckiamute River. This study is in preliminary stages with no assurance that a project can be developed. If detention reservoirs can be installed on the Luckiamute, they would affect flood damages on the lower reaches of the Little Luckiamute. However, this would not detract but would improve the flood protection for this area and make the Little Luckiamute flood prevention more effective in this reach.

34. Comment: Page 5, para. 6 refers to the flood prevention measures that are to achieve the objectives of providing the maximum justifiable level of flood protection along the Little Luckiamute River flood plain not affected by the backwater from the Luckiamute. The flood control is but 2% at best. The main flooding problem, as I understand is on the lower Little Luckiamute, and the main cause of this is backwater from the Big Luckiamute. So control dams on the Big Luckiamute would control the backwater into the Little Luckiamute. Some channel clearance would take care of the problem on the upper Little Luckiamute. A dam on Teal Creek is not needed to attain this.

Response: There are flood damage problems on Little Luckiamute from Falls City to the mouth. Most of this area would not be affected by any control measures on the Luckiamute. The control level proposed in this plan is the maximum which could be justified, considering the benefits and costs of different levels of protection.

35. Comment: Alternate Sites - The Grant Creek site and pumping from the Willamette are the two better alternatives and choices. Either would be better than the Teal Creek dam project. Either would furnish irrigation, which is really all that looks necessary anyhow. And that to but a few. Actually the farmers say they want channel clearance and flood control more than irrigation.

Response: The proposed project is the alternative selected by the local sponsoring organizations, after consideration of all alternatives, as best meeting their objectives for the various project purposes.

36. Comment: I question the need for additional recreational facilities. The County has to bear the cost of operation of this proposed recreation site. In Polk County many of us feel more attention should be given the parks we have, before another one is shoved down our throats to pay for, and which would be much more

expensive to maintain than any of the present ones.

Response: The need for recreation facilities is covered in the Problems and Needs section of the EIS. Polk County is the local sponsoring organization with responsibility for recreational development. County officials participated in the formulation of this plan and have accepted the responsibility for the installation operation and maintenance of the recreational development.

37. Comment: The people dislocated by this proposed project are brushed over very lightly.

Response: The need for relocation of 14 families has been identified in the Environmental Impact section of the EIS. Cost for acquisition of this property and for assistance in relocation of these people is included in the project costs, and the responsibilities to provide this assistance covered in the Work Plan Agreement. item 2.

Crystal Rogers

1. Comment: I see absolutely no need of a sewer system being installed in Falls City. A move like this could no doubt bankrupt Falls City at this time.

Response: The need for a sewer system in Falls City, and any decision on whether one is installed, is the responsibility of the officials and residents of Falls City, and is not proposed nor in any way implied in this plan.

2. Comment: A dam and other changes would only create a need for many added services plus a demand for higher taxes on the local taxpayers (property owners).

Response: The possible future needs for services, and raising or lowering of taxes are responsibilities of local organizations, and each will be considered on its own merit. The effects of this project are listed in the Impacts section of the EIS.

3. Comment: These changes would cause a great influx of recreational transients, and noise, traffic problems.

Response: The impacts of the recreation visitors are identified in the Environmental Impacts section of the EIS.

4. Comment: The 1970 (cost) figures would certainly be different in cost now.

Response: Costs have risen substantially. The average annual benefits and costs using current prices are given in the Addendum, Part 1.

5. Comment: Water from the Luckiamute on a reasonable rate from heavy rains to feed into a dam for irrigation of row crops to farmers would be feasible (but) the way it shapes up the farmers who now enjoy free water rights would be paying almost \$18.00 per acre water use cost.

Response: Existing water rights are not affected by this project. No charge can be made for water to which a user has a prior right unless the user elects to have the water delivered through a new distribution system and to pay for this service.

6. Comment: I am deeply concerned with a draw down on the (Little) Luckiamute.

Response: The only drawdown of the Little Luckiamute will be a diversion of water from high flows to reduce flood damage and to store water for use during low flow periods. Low flows will not be reduced by this project. See Planned Project section of EIS.

7. Comment: I feel that there is plenty of water for sportsmen and speculators to enjoy in the Willamette River and other sources available in near locations.

Response: Recreation opportunities and needs covered in Recreation Problems and Needs section of EIS.

8. Comment: I do not want one quiet, unmolested, natural environmental area to be blasted with the same impact which a person can find anywhere within a 20-30 minute drive from Falls City.

Response: The proposed action is the selection of the local sponsoring organizations, who represent the people of the area, to provide the best conditions for the most people over the long term.

Wm. A. Schuerman

1. Comment: One difficulty is that the project would generate both cash and social costs and benefits, and the report co-mingles them, and attempts to express them all in dollars. This misleads. This could be cured by dividing cash items and social items into separate balance sheet arrangement.

Response: All benefits and costs used in project evaluation are expressed in monetary terms. Other than various narrative

items in the plan and EIS, the only social effects expressed are in the addendum, part 2, in the section covering social well-being.

2. Comment: The statement is not clear as to net benefits to farming. It appears that the economic and social effect of present irrigation and approximately 800 acres of cropland, grassland, forest and pipeline area should be deducted before stating the amount of benefit.

Response: The benefits of irrigation and improved land use on the flood plain are the difference between the net income for future without-project conditions as compared to future with-project conditions; therefore, present income is properly deducted from gross benefit. The loss of approximately 800 acres of land by installation of structures is included in the evaluation as a project cost and is included in the cost for land rights acquisition.

3. Comment: Similarly for the benefit of the fishery. The work plan uses gross sale price of fish landed at dockside (1970 prices), and fails to allow for the cost of boats, labor and materials to secure this benefit.

Response: The benefits of fishery enhancement are net benefits with the costs mentioned deducted from gross values.

4. Comment: The several miles of existing public roads leading to the recreation area are narrow, curved and undulating with short sight distances, gravel surfaced. People living along them will find it unsafe to get out of their own driveways especially with farm machinery if the recreation use is anywhere near the volume that the environmental statement predicts. I find no allowance for corrective measures or the social cost of resulting accidents.

Response: The occurrence of increased traffic hazards is included in Environmental Impact section of the EIS. A check of traffic capability of the principal access routes indicates that they have very adequate capacity for the expected use. The road management agencies will be responsible to operate and maintain, or to improve these roads as the need arises.

5. Comment: There is no mention of vandalism similar to that experienced at other parks, theft and damage to gardens, crops and forest and necessity for increased police and fire protection.

Response: Vandalism, reprehensible as it may be, is expected to occur in the park area. This item is taken care of by normal operation and maintenance as a project cost. The park area will be fenced to decrease the trespass problem. It should

not be an automatic assumption that there will be any significant increase in the problems mentioned outside of the project controlled area. If such problems do occur, they can readily be handled by normal policing activities of those government organizations responsible for this activity.

6. Comment: The immediately adjacent village of Falls City would be unable to cope with the predicted flood of recreationalists as to parking, stores and other necessary services. School facilities would prove inadequate to accommodate the children of construction workers during the 6 or 7-year predicted construction period.

Response: The city of Falls City does not have adequate services now available to serve the predicted need of the recreationalists, nor does it have services adequate for residents of the area. Improvement of these services is one of the community needs and is expected to be improved as the justifications for these improvements occur. It is expected that most of the workers will reside in other nearby communities where housing and services are available.

7. Comment: The project may attract new permanent residents with children and consequent need for schools. Since new homes do not generate sufficient taxes to absorb the increase in school costs, it will burden the high proportion of low income and retired people with costs for schools in which they have no children. Persons with vacant land may be beneficiaries through higher sale prices.

Response: Improved employment and income will encourage additional improvements and increased property values in the area. This will improve the tax base as a whole and will provide additional sources of revenue to help carry the tax load. It cannot be assumed that taxes will increase due to this project.

8. Comment: The statements page 38 fail to state that irrigation dependability is 8 years out of 10. Economic stability is claimed although all of the activity generated is seasonal. This is the reverse of stability as we already have too high a proportion of seasonal work.

Response: The statement on irrigation dependability referred to has been revised, also other descriptions of this irrigation water supply are revised to eliminate the confusion caused by the explanation of reliability. The 8 out of 10 year reliability is for a full season water supply with no shortage. In this area the reliability of yield provides a very stable water supply and even on those 2 out of 10 years when less than a full supply will be available, the shortages will be very minimal and will have no serious impact on the cropping systems or income. In regard to the question of economic

stability, agricultural production is a year-round job, and while there are seasonal jobs involved, there will be a significant increase in year-round employment. Also, the employment related to municipal industrial water supplies will generally be full season. Employment related to crop harvest and to operation and maintenance of recreational facilities is largely summer employment which is available from students, teachers, and others who need this type of seasonal work.

9. Comment: Page 39 claims decrease in potential fire hazard. Absurd. People are the chief cause of fires, 420,000 predicted visitor days at edge of unbroken miles of Douglas Fir forests.

Response: The item on reduction of fire hazard has been revised for clarification. It is not expected that this project will decrease the hazards of fires starting; however, project measures are included for the early detection and suppression of the fires. Therefore, this project action should decrease the acreage burned by fire.

10. Comment: As to erosion, page 30. The project economic report is based partly on conversion of grass and brushland to row crop use. This exposes more unprotected surface to the heavy rains of winter and to the irrigation in summer. More erosion, not less.

Response: The projected land use change used in the estimation of project benefits is for an increase in hay and pasture land from approximately 27 percent of the area to 37 percent, with most of the cereal grains being replaced by row crops or forage crops. With proper winter cover crops, the row crop areas can be well protected from winter erosion. There should be a significant decrease in erosion from these areas with the project measures installed.

11. Comment: Pictures on pages 28 and 29 would mislead one to believe these conditions were typical and persistent as no true explanation is given. To my knowledge there is only one dwelling so affected and 2 road crossings. The flood control capability of the project would not eliminate the condition shown. The condition shown does not occur every winter as the caption states and when it does come it lasts only a few hours. The project would not really be "CONTROL", it should be characterized only as alleviation.

Response: The pictures referred to are of flooding conditions which frequently occur in this watershed. There is no intent to imply that these problems will be completely controlled by project action. To avoid misunderstandings, the picture of the flooded house is removed from the statement since it is in the lower reaches of the Little Luckiamute where project flood prevention effects are limited by backwater from the

Luckiamute River. The project flood prevention benefits are based on flood damage reduction and not flood control.

12. Comment: The state Willamette Greenway project has recently purchased the 224 acre Pilcher farm and 250 other acres at the junction of the Luckiamute, Willamette and Santiam Rivers, 3½ miles of river frontage. The use of this alternate for recreation would alleviate the concern of the Falls City area people about the impact of the 420,000 visitor days per year projected for the Teal Creek site.

Response: The Willamette Greenway project was considered when needs for additional water-based recreational facilities were analyzed for this project. The Greenway will meet somewhat different recreational needs than can be met by a slack water reservoir, and each project can help fill the total recreational needs. See response to OEC comment 6 on page II-66.

13. Comment: There is the possibility that a project as follows would overcome objections, result in greater benefits and cost less: Construct water storage on main Luckiamute near the South section line of Sec. 18, T9S, R7W to augment low flow; pump part up the Little Luckiamute, leave balance for main Luckiamute and fish. This would nearly triple irrigation possibilities compared to the Little Luckiamute plan. Combine recreation with Willamette Greenway, item 12 above. This would avoid appropriation of Teal Creek farm land (item 2 above) for reservoir, displacement of people and cost of diversion canal.

Response: The various measures in this alternative proposal have all been considered during formulation of this project plan. Selection of this alternative would not provide the flood protection, and control and use of water for irrigation which are primary objectives of the sponsors of this project.

14. Comment: Economic environment. (a) The Teal Creek project would absorb so much of the county financial resources for 50 years that the larger possibilities of above paragraph 13 project would be incapable of realization even if it costs less than the Teal Creek project. (b) I estimate that the Teal Creek proposal would require over \$500,000 per year of new county funds for interest and amortization. This county raised money would undoubtedly accrue to non-resident bondholders for a substantial net drain on the county populace.

Response: Polk County is a sponsor of this project. County officials have participated in the formulation of this plan and selected the project measures included, and have given assurances that they can meet the responsibilities assigned to the county.

15. Comment: Improvement of Environmental Statement. The statement should be rewritten by persons who have foresight enough to visualize all the effects and alternatives for the long range future, represent the effects fairly and completely, show amounts of cash benefits and full cash costs separate from social benefits and costs, and explain it fully so that one doesn't have to be an engineer, etc., to fathom the full consequences.

Response: This statement has been revised to reflect comments received during the project plan and environmental statement review.

Larry R. Scofield

1. Comment: This letter is essentially a treatise on why planners should read published text on "socio-cultural" aspects of water resource development in order to properly evaluate project proposals.

Response: Impacts of this project were considered and identified in all aspects appropriate to this proposed action. A broad area of expertise was utilized for this evaluation.

Pauline Scott

1. Comment: I am against the Teal Creek dam project.

Response: Comment acknowledged.

Florence Spady

1. Comment: Falls City has nothing to gain, and everything to lose! There will be some land taken off the tax rolls; the assessed value of our property will go up; followed by an elevation in our taxes. Also we are urged by the commissioners to vote a special tax levy to help finance the project. Which was estimated to cost \$12 million at the onset, but with inflation has now doubled.

Response: A very limited area will be removed from the assessment roles in Falls City. Most of the diversion area is presently undeveloped and paying very little taxes. Property values may go up as a result of improved values in the area. This would improve the general tax base. A tax increase would only be

brought about if local budgets are voted to increase services in the area. There has been no special tax levy proposed to finance this project. Prices used for cost estimates for installation of this project were based on 1970 prices. Since that date, the cost of construction has substantially raised, with approximately a 7 to 10 percent increase each year. The value of benefits has also increased. The effect of these changes in price is shown in the Benefit/Cost Ratio in the Addendum, Part 1.

2. Comment: The building of the dam would surely bring in a temporary influx of people who would demand more services from Falls City. Then when they move, Falls City would be stuck for paying for the extra services no longer needed. REMEMBER SWEET HOME?

Response: A temporary increase in population of the Falls City area can be expected during construction of the project. However, it is expected that this increase will be relatively minor since a significant portion of these people will choose to live in Dallas, Monmouth, Independence or Salem areas where housing and services are readily available.

3. Comment: Falls City has always had an abundance of excellent water, the source of which belongs to Falls City. The dam would cover Falls City transmission lines; this would necessitate relocation of the lines. If the government "generously" moves the lines for us, they will also control our water supply. This would force us into meters and cause us to buy back our own municipally owned supply.

Response: Relocation of the Falls City water lines is a land rights cost and is the responsibility of the local sponsoring organizations. These organizations will not own or in any way control the water supply of Falls City.

4. Comment: Since there are plans for promoting building around the dam site, it follows there will be pressure brought to force Falls City to put in a sewer service. This would bankrupt our little city. Very few people living here can afford the cost of lateral lines to their property, hook ups, and taking the lines to the back of their property. All of these costs would have to be born by the property owners.

Response: This project does not propose buildings around the dam site. The area will be reserved for recreational development and building will not be permitted adjacent to the reservoir. It is not proposed that the project areas will be serviced by Falls City sewer system, nor is there any implication that this project will force Falls City to provide such services. This decision will be made by Falls City on the basis of analysis of their own needs and capabilities.

5. Comment: Now we come to the question of irrigation for the farmers. The farmers who put in row crops along the river, have done so to take advantage of the productive soil & silt; also take the water from the Luckiamute River for their irrigation, which now is free. Why should they trade this setup for one which they would have to pay \$17.50 and up for one acre to irrigate?

Response: This project does not propose charging for irrigation water or charging for services to the present irrigation water users who have rights on the natural flows of the Little Luckiamute. Project irrigation is for 4100 acres of land presently either dry farmed or with very limited water supply available.

6. Comment: There is no way, that we will stand still for a diversion dam on the Little Luckiamute River above the falls. Why should we furnish the water to fill the Teal Creek pond? If we should experience a dry summer, we know full well who would take the priorities of the water in the river.

Oh yes we are constantly reassured that there is a legal quota of minimal flow level over the falls at all times. But we found in Sept. of 1973 when the water dropped below the minimal flow and the Water Resources Board ordered a halt to irrigation from the river, these same few men, armed with an order from a judge made a midnight flight to Medford and ordered the Water Resources Board to reopen the river for irrigation. They won!

Response: Water will be diverted to the reservoir from Little Luckiamute River only during periods of high water flow. This project does not need the diversion of any flows during the summer period. These summer flows are heavily appropriated by holders of prior water rights and are used to maintain base minimum flows in the stream. Apparently the instance to which you refer was a case of an emergency in which the responsible judicial and administrative officials determined that it was to the public interest that they should temporarily modify the restrictions for use of low flows on this stream.

Normal W. & Phyllis G. Wilson

1. Comment: This project was once rejected by the citizens of Polk County in an open election because of mis-representation and vague answers when specific questions relating to cost, taxes, operation, etc., were not forthcoming.

Response: There has not been an election on this project in Polk County. The election referred to apparently is the election held to dissolve the Little Luckiamute Water Control District, which was a sponsor of this project during the early portions of planning. The district was dissolved and is not a party to this plan.

2. Comment: The burden to the taxpayers of Polk County is tremendous based on an old estimate that has not been updated.

Response: Polk County is a sponsor of this project plan. Officials of the county have participated in development of the plan and have provided assurances that responsibilities of the county can be met. Costs in the plan are 1970 prices. These costs have risen by about 7 to 10 percent per year since that date. The result of this price change and the increase in benefits due to prices is shown in the Benefits/Cost Ratio in the Addendum, Part 1.

3. Comment: The fire hazard to this (timber) resource is terrific. At the very times when the public would presumably use this facility the fire danger is the greatest.

Response: The project plan includes \$52,130 for fire protection facilities to improve fire detection and suppression capabilities in this area. It is expected that these facilities will be located where the increase in fire hazards due to additional people will be the highest. The reservoir and irrigation distribution system will provide a readily available source of water for fire protection.

B I B L I O G R A P H Y

LITTLE LUCKIAMUTE RIVER WATERSHED ENVIRONMENTAL IMPACT STATEMENT

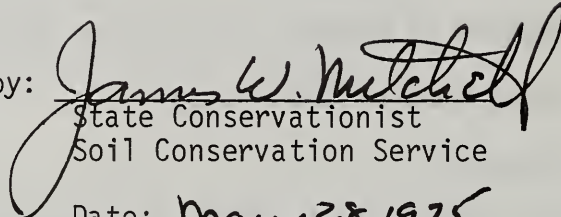
- 1/ All information and data, except as otherwise noted by reference to source, were collected during watershed planning investigations by the Soil Conservation Service and the Forest Service, U. S. Department of Agriculture.
- 2/ National Weather Service records.
- 3/ Oregon State Engineer - Well log data.
- 4/ U. S. Bureau of Census
- 5/ Polk Soil and Water Conservation District.
- 6/ Oregon State Department of Forestry.
- 7/ Regional Park and Recreation Agency of the Mid-Willamette Council of Governments.
- 8/ U. S. Geological Survey - Streamflow records.
- 9/ "Water for Monmouth" by Clark and Groff Engineers, Inc., Salem, Oregon, 1967.
- 10/ State of Oregon, Employment Division.
- 11/ Fish Commission of Oregon.
- 12/ Willamette Basin Comprehensive Study - Willamette Basin Task Force, Pacific Northwest River Basin Commission, 1969.
- 13/ Oregon State Department of Environmental Quality

LIST OF APPENDIXES

- A. Comparison of Benefits and Costs for Structural Measures.
- B. Project Map
- C. Letters of Comment Received on Draft EIS
- D. Water Quality Information
- E. Figures
 - 1 - Annual Distribution of Streamflow and Net Irrigation Requirements
 - 2 - Soils and Land Use Map
 - 3 - Teal Creek Reservoir and Recreation Development
 - 4 - Teal Creek Dam and Geology
 - 5 - Irrigation Water Distribution System
 - 6 - Little Luckiamute Diversion System

APPROVAL SIGNATURE

Approved by:


State Conservationist
Soil Conservation Service

Date: May 28, 1975

APPENDIX A

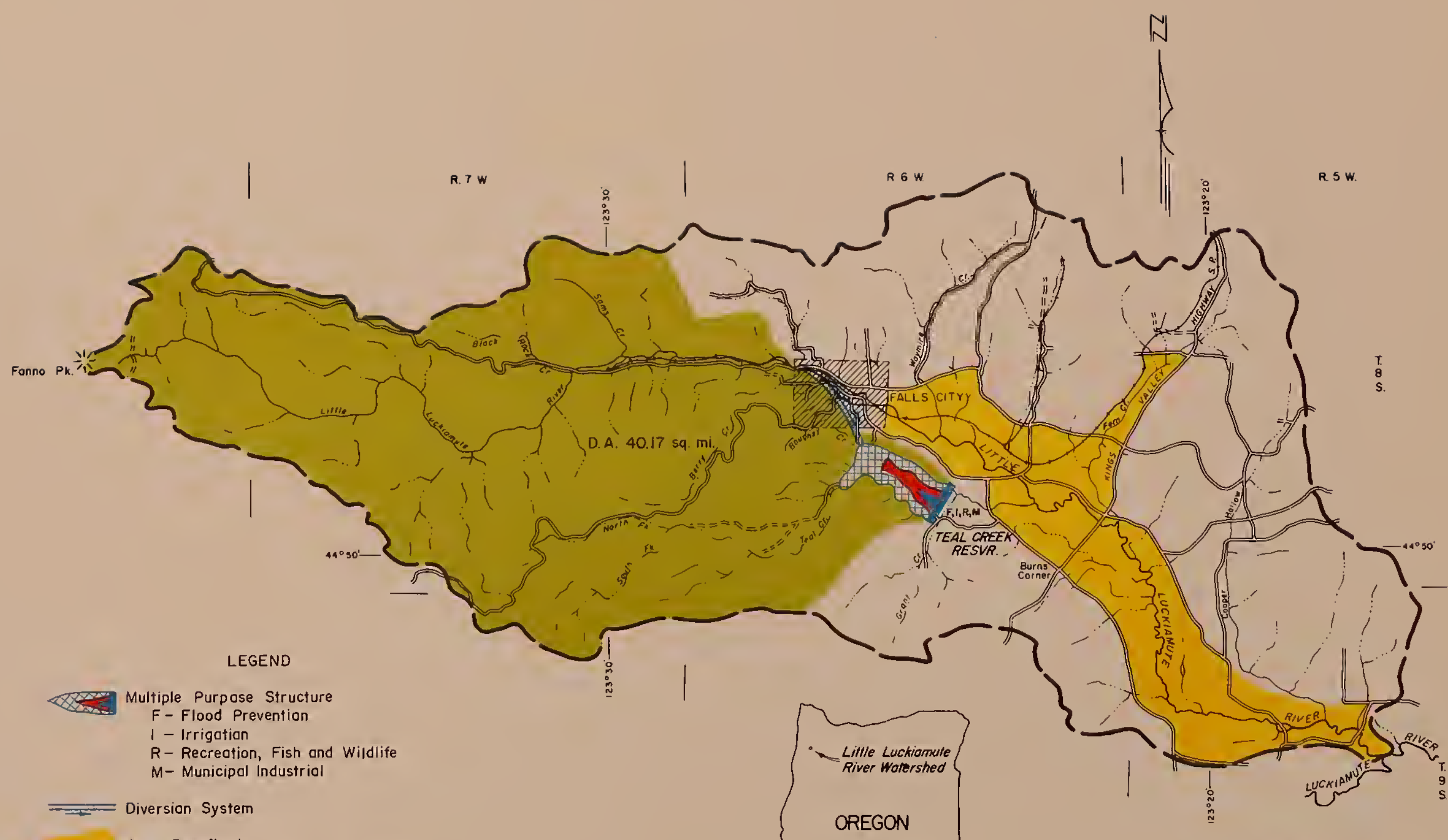
COMPARISON OF BENEFITS AND COSTS FOR STRUCTURAL MEASURES

Little Luckiamute River Watershed, Oregon

(Dollars) 1/

Evaluation Unit	Average Annual Benefits <u>1/</u>										Average Annual Cost <u>2/</u>	Benefit:Cost Ratio
	Damage: Reduction	More Intensive: Land Use	Irrigation	Fish & Wildlife: Irrigation	Municipal: Water Supply	Recreation: tion	Secondary: dary	Total				
All Structural Measures	43,310	78,625	159,055	40,140	61,200	398,250	131,730	912,310	630,710	1.4:1		
Project Administration	-	-	-	-	-	-	-	-	-	98,900		
GRAND TOTAL	43,310	78,625	159,055	40,140	61,200	398,250	131,730	912,310	729,610	1.3:1		

1/ Adjusted Normalized Prices.
2/ From Table 4.



LEGEND



Multiple Purpose Structure
 F - Flood Prevention
 I - Irrigation
 R - Recreation, Fish and Wildlife
 M - Municipal Industrial



Diversion System



Area Benefited



Drainage Area Controlled by Structure

See Figure No. 5 for Irrigation Water Distribution System



LOCATION MAP



APPENDIX B
PROJECT MAP
 LITTLE LUCKIAMUTE RIVER WATERSHED
 POLK COUNTY, OREGON
 PRELIMINARY PLANS
 U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
 Prepared by U.S.N. on 6/10/68 by M7-N-21499

APPENDIX C

LETTERS OF COMMENT

RECEIVED ON DRAFT

ENVIRONMENTAL STATEMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

DEC 17 1974



REPLY TO
ATTN OF:

10MEI - M/S 325

Mr. James W. Mitchell
State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
1218 S.W. Washington Street
Portland, Oregon 97205

Dear Mr. Mitchell:

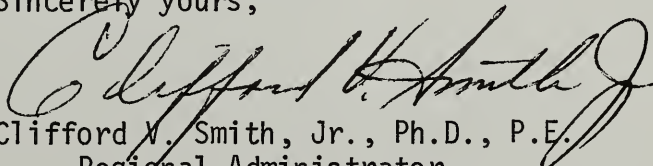
We have completed review of your draft environmental impact statement, "Little Luckiamute River Watershed." The statement appears adequate.

Some aspects of the project such as adverse impacts on downstream banks following project channelization and possible algal blooms due to low flow and hot weather should probably be discussed. Water is a scarce resource in the project area and should be conserved, as your Agency proposes.

Our comments on this draft statement have been classified LO-1, LO (Lack of Objections) 1 (Adequate Information). The classification and the date of the Environmental Protection Agency's comments will be published in the Federal Register in accordance with our responsibility to inform the public of our review on proposed Federal actions under Section 309 of the Clean Air Act.

Thank you for the opportunity to review and comment on this draft environmental impact statement.

Sincerely yours,


Clifford N. Smith, Jr., Ph.D., P.E.
Regional Administrator



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS: (G-WS/73)
U.S. COAST GUARD
400 SEVENTH STREET SW.
WASHINGTON, D.C. 20590
PHONE: (202) 426-2262

13 NOV 1974

Mr. James W. Mitchell
State Conservationist
Soil Conservation Service
1218 S.W. Washington Street
Portland, Oregon 97205

Dear Mr. Mitchell:

This is in response to your letter of 18 October 1974 addressed to Commandant, U.S. Coast Guard concerning a draft environmental impact statement for the Little Luckiamute River Watershed Project, Polk County, Oregon.

The Department of Transportation has reviewed the material submitted. The Coast Guard had the following comments to offer:

"It should be ascertained that adequate monitoring of oil and hazardous substance discharges are provided during and after the construction period."

The Department of Transportation has no other comments to offer nor do we have any objection to this project. However, the concern of the Coast Guard should be addressed in the final environmental impact statement.

The opportunity to review this draft statement is appreciated.

Sincerely,

R. L. FICE
Rear Admiral, U.S. Coast Guard
Chief, Office of the Environment
and Safety

Advisory Council
On Historic Preservation
1522 K Street N.W. Suite 450
Washington D.C. 20005

Mr. James W. Mitchell
State Conservationist
Soil Conservation Service
U. S. Department of Agriculture
1218 S. W. Washington Street
Portland, Oregon 97205

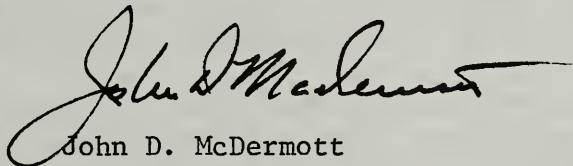
Dear Mr. Mitchell:

This is in response to your request of October 18, 1974 for comments on the environmental statement for the Little Luckiamute River Watershed Work Plan, Polk County, Oregon.

Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, the Advisory Council on Historic Preservation has determined that your draft environmental statement (DES) appears adequate regarding our area of expertise, provided that your reference on page 26 of the DES to the "Federal Register" refers to the listing of the National Register of Historic Places which is published in the Federal Register, and we have no further comment to make at this time.

Should you have any questions or require additional assistance, please contact Brit Allan Storey of the Advisory Council staff at P.O. Box 25085, Denver, Colorado 80225, telephone number (303) 234-4946.

Sincerely yours,



John D. McDermott
Director, Office of Review
and Compliance

Received
Feb 7, 1975
WAC



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer to:
ER-74/1312

FEB 4 1975

Dear Mr. Mitchell:

Thank you for your letter of October 18, 1974, requesting our views and comments on the work plan and draft environmental statement for the Little Luckiamute River Watershed, Polk County, Oregon. We have comments on both documents as set forth below.

Work Plan

In Addendum I under Section A-8 of Part 2-5, we feel flows by month should be shown, since adequate minimum flows are critical for fish needs. If such flow analysis is shown elsewhere in the work plan, a reference would be sufficient.

Many of the suggestions previously made by Federal and State conservation agencies have been incorporated into the draft work plan. The plan adequately covers effects on anadromous fish, provides for loss mitigation by trapping and hauling to allow continued use of upstream habitat, and insures fisheries enhancement by providing for the rearing and releasing of salmon and steelhead. Adequate minimum flows will also allow continued anadromous fish use downstream.

However, some weaknesses still remain with respect to fish and wildlife matters. The project calls for regular stocking of rainbow trout. Annual cost is included in the operation, maintenance, and replacement costs to be assumed by the non-Federal sponsors and cooperating agencies, but the cost of incubation and rearing facilities for providing these fish is neither considered in the economic analysis nor reflected anywhere in the plan. These facilities should be considered in the initial project installation costs, and as such, should be subject to cost-sharing.



It is our conclusion that wherever wildlife habitat matters appear in the plan, they are not considered in sufficient detail. We cannot evaluate project impact on wildlife without knowing (1) what habitat will be affected, and (2) how it will be affected. It would be helpful, if in the final work plan, instead of references to acres of land to be flooded or unflooded, or whatever anticipated status change, some slight breakdown into types of habitat and kinds of change is provided. This means we would appreciate sufficient information to enable us to draw a comparison between without-the-project and with-the-project wildlife support capabilities.

The following species should be added to the list under fish and wildlife resources in the description section on page 15: weasel, bobcat, cougar, and spotted owl. The northern spotted owl, Strix occidentalis caurina, has not been recognized nationally as an endangered species but is listed under threatened birds of the United States in the 1973 edition of Threatened Wildlife of the United States, a publication of the U.S. Department of the Interior. The spotted owl requires old-growth coniferous stands in the Cascade and Coast Ranges of the Pacific Northwest, and removal of these old-growth stands has resulted in severe declines of spotted owl populations. Suitable habitat for these birds has been identified west of Falls City within the Little Luckiamute River Watershed. Although nothing in the work plan suggests any cause for concern, we consider it prudent to mention their possible presence, so that their interests may not be jeopardized unknowingly.

On page 62, in Item No. 4 of Operation of the Structures: Continual maintenance of natural stream channels is indicated. This section should be expanded to allay any concern over possible conflict between the concepts of channel maintenance and normal stream habitat. The terms "undesirable tree growth," "sediment accumulation," and "debris dams" are ambiguous and should be defined more completely. Natural growth of aquatic vegetation is necessary for maintenance of abiotic and biotic nutrient cycles. Gravel beds and woody debris are necessary substrates for aquatic invertebrate life and for resident and migrant fish feeding and spawning areas. These areas constantly change in character and distribution as a natural consequence of annual streamflows and environmental cycles. Such characteristics should be recognized as necessary constituents of stream habitat and not be construed as undesirable tree growth or sediment accumulation. Maintenance activities should therefore be restricted to removal of obstructions that would divert streamflow to cause significant flooding.

Removal activities should be localized as much as possible and be designed to cause minimal disruption of stream substrates. Provision should be made for conferring with conservation agency biologists before any channel work is begun. Chemical removal of aquatic vegetation should be avoided. Provision should also be made for the maintenance of a riparian buffer strip along the Little Luckiamute River within the project area.

Point No. 2 under Maintenance of Facilities on page 63 should be made consistent with a clarified description of stream maintenance activities as suggested above.

In the discussion of Existing Water Rights on page 93 of the Analyses Section, it is not clear whether a minimum flow for fish will be insured, or if prior rights by irrigators and M & I users would be allowed to dry up the stream.

The Geological Survey has classified approximately 320 acres in the project area in Power Site Reserve 661 of December 12, 1917. The lands are revested Oregon and California Railroad grant lands and consequently were also classified in Water Power Designation 14 of December 12, 1917. No field examination was made of the Little Luckiamute River basin at the time of the classifications, the purpose being to protect potential storage sites in the headwaters of the basin. Although these sites lie within the project area, the classified lands would be unaffected by the proposed watershed project.

On page 33 (paragraph 4) of the work plan, it is stated that "This storage (for sediment) will occur after seepage and evaporation have taken place . . ." We assume this means after allowances for seepage and evaporation. Paragraph 2 implies that the 381 acre-feet includes losses, whereas in paragraph 4 it is indicated that the 381 acre-feet is after and in addition to losses. Some clarification of these points should be made.

There are no Bureau of Land Management (BLM) administered lands in the reservoir taking area or the downstream area receiving benefits from the project. There is, however, a relatively small acreage of BLM land in the overall watershed upstream from the reservoir. We anticipate that the implementation of the project will pose no problems in the management of these BLM lands.

We believe the work plan and environmental statement would be improved if the rationale was provided for the recreation visitation estimate used in this study. The visitation estimates

seem to be overly optimistic when one considers the water body being provided, 440 surface acres at high water and 340 acres at low water. Based on the annual visitation estimate daily use averages 1200 visits daily throughout the year. Since the area is subject to seasonal climate changes daily visitation would be substantially higher than 1200 visits per day to compensate for the little or no use during the periods of adverse weather conditions. Both the work plan and the impact statement would be improved if they contained the rationale to support such high use values.

Environmental Statement

Summary Section

The central part of the entire Watershed Plan is the construction of the Teal Creek Dam. Without the dam there would be no project. However, the fact that a dam is to be built is not mentioned until the fifth item summarizing the environmental impacts (page 2). In our opinion, the fact that something as far reaching as construction of a dam should be mentioned prominently under project purposes and actions.

Planned Project

On page 8, paragraph 5, the levels of the orifices for the principal spillway in the box-inlet should be indicated. Without this information, we are unable to properly evaluate claims of fishery enhancement as a result of releases of lower temperature water during the summer.

On page 9 (also page 38) the statement is silent as to what measures are being taken to mitigate the impacts of dislocating 45 people (14 families) in the project area, including three farm operations. The discussion should consider:

- a. Relocation or destruction of homes.

- b. Resource losses on the farm operations.
- c. Impact on the local community and/or on other communities by this displacement.

On page 14 the statement refers to frequency of inspections of the completed facility and who will make such inspections. The statement should also discuss the impact of a dam or other facility failure to the surrounding and downstream areas.

Environmental Setting

The statement does not mention that two active limestone quarries are located within the watershed, and that there is some potential for manganese resources. A small concentration of manganese has been reported in the bank and bed of Rickreall Creek about 1 mile north of the watershed boundary. However, while we believe the major structural feature of the plan will not adversely affect the active quarries or the exploration for manganese these mineral activities and resources should be mentioned in the final statement.

Water and Related Land Resource Problems

On page 29 the plan envisions "clearing of the reservoir of all brush and trees" to assist in maintaining water quality. The plan doesn't discuss the possibility of leaving small groupings of trees (these would become snags) which would provide perching or nesting habitat for birds. If strategically placed such groupings could also slow down the wave action which causes water turbidity in shallow areas.

Environmental Impacts

The statement correctly points out the increased stream turbidity to be expected during the construction period. However, the potential long-term adverse impact on water quality from turbidity was not discussed. Wave action resulting from wind or boat wakes may increase turbidity in the reservoir particularly near shallow or mud flat areas. This additional discussion would improve the overall approach to the turbidity problem.


Impacts related to geologic conditions appear to be adequately discussed in the environmental statement, and we foresee no major water problems relating to the proposed action.

On page 36, paragraphs 1 and 4 under the Structural Measures section, it is stated that 637 acres of wildlife habitat will be lost to reservoir and diversion structures; 258 acres of wildlife habitat will be converted to recreational development; and 150 acres of wildlife habitat will be cleared for irrigation development. This description does not adequately identify potential habitat loss. It may be necessary to inventory the actual habitat areas and species suitability to properly describe project impact on wildlife habitat. No measures appear in the statement to mitigate this loss of habitat. This should be given further attention and analysis in the final statement.

Discussion of the effects of reservoir drawdowns is inadequate. The only reference to drawdowns in the entire document is on page 41 in the section entitled "Adverse Environmental Impacts" and reads "Reservoir drawdown will create a temporary mud flat area each year". Research into the probable impacts associated with project-caused water fluctuations on outdoor recreation facilities, waters, and lands is warranted; mitigative measures which deal with such impacts should also be addressed. Problems such as accelerated erosion, isolation of developed sites from the water, physical hazards to persons because of rapidly rising water levels, and inoperative boat launching are possible adverse impacts associated with drawdowns. A complete discussion of this subject should be highlighted in the final environmental impact statement.

We hope these comments will assist you in further consideration of the project.

Sincerely yours,


Secretary of the Interior

Deputy Secretary

Mr. James W. Mitchell
State Conservationist
United States Department of
Agriculture
Soil Conservation Service
1218 S.W. Washington Street
Portland, Oregon 97205



Secy's Cont. No. 06-81746

DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

3 FEB 1975

Control No.

06-81746

Referred to:

SCS

Date:

C FEB 06 1975

Honorable Robert W. Long
Assistant Secretary of Agriculture
Washington, D. C. 20250

Dear Mr. Long:

In compliance with the provisions of Section 5 of Public Law 566, 83d Congress, the State Conservationist, on behalf of the Administrator of the Soil Conservation Service, by letter dated 18 October 1974, requested the views of the Secretary of the Army on the Watershed Work Plan and Draft Environmental Statement for the Little Luckiamute River Watershed, Oregon.

We have reviewed the work plan and foresee no conflict with any projects or current proposals of this Department. The draft environmental statement is considered to be generally satisfactory.

Sincerely,

Charles R. Ford
Chief
Office of Civil Functions



**DEPARTMENT OF
ENVIRONMENTAL QUALITY**

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NOV 27 1974

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SALEM, OREGON

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TOM McCALL
GOVERNOR

November 26, 1974

KESSLER R. CANNON
Director

Chris Wheeler, State Engineer
1178 Chemeketa Street N. E.
Salem, Oregon 97310

RE: WQ - Review Draft
Little Luckiamute River Water-
shed Work Plan, Polk County
October 1, 1974

Dear Mr. Wheeler:

Per the attached letter, this Department has reviewed the above subject plan. We look favorably upon water development projects of this type for their many benefits, especially low flow augmentation. It is our opinion, based on recent study results, that channel improvements should be limited to log jam removal only -- with no other disturbance to channel configurations, depths, widths, or shoreline vegetation. These natural conditions appear to be the most effective known for dissipating the destructive energies of a flooding stream.

Cordially,

KESSLER R. CANNON
Director

Glen D. Carter
Glen D. Carter, Administrator
Program Development Division
Water Quality Program

GDC:rgs

enclosure



**FISH
COMMISSION**

OFFICE OF THE DIRECTOR

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DEC 13 1974

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December 11, 1974

Mr. Chris L. Wheeler
State Engineer
1178 Chemeketa Street NE
Salem, Oregon 97310

Dear Mr. Wheeler:

We were instructed in a letter from James Mitchell, State Conservationist for the Soil Conservation Service, to send our comments on the draft Little Luckiamute Watershed Work Plan and Environmental Statement through you.

Page 15 of the Watershed Plan, and 27 of the Environmental Statement says the fish agencies have been introducing coho salmon into the basin stream. It should say coho salmon and steelhead. Also, fall chinook smolts were stocked in the Little Luckiamute in 1974.

Page 33 of the Environmental Statement says "surplus coho salmon have been stocked above the falls to spawn." It should say "coho salmon and steelhead have been stocked above the falls to spawn." Surplus steelhead adults were put in the Little Luckiamute in 1968, 1969, 1971 and 1972.

Page 20 of the Watershed Plan and 32 of the Environmental Statement says "streamside trees and shrubs are valuable wildlife habitat." It should also say "streamside trees and shrubs are valuable for quality salmonid fish habitat."

Mr. Chris L. Wheeler
December 11, 1974
Page 2

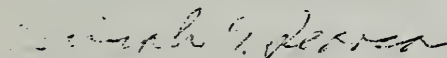
Page 35 of the Watershed Plan states "the maximum flow to be diverted into the diversion canal will be 150 cfs during April and May." We question limiting this diversion to 150 cfs maximum. It will be of benefit for downstream passage of salmon and steelhead to have the reservoir fill as quickly as possible. Many times streamflows during this period will be enough to divert more than 150 cfs into the reservoir. For good fish passage, the maximum diverted into the reservoir should not be limited to 150 cfs in April and May.

Page 6 of the Environmental Statement states the project objectives are to enhance the salmon and steelhead fishery. As presently formulated, we believe the project would only significantly enhance the salmon fishery in the Willamette and Columbia rivers.

We believe it would be of benefit if fish habitat maps could be shown in the Work Plan and Environmental Statement.

We appreciate the opportunity to comment on this Watershed Plan and Environmental Statement.

Sincerely,



LINCOLN S. PEARSON
RIVER BASINS SPECIALIST

cc U. S. Fish and Wildlife Service
Mr. James Mitchell, Soil Conservation Service
National Marine Fisheries Service
Oregon Wildlife Commission



WILDLIFE COMMISSION

OFFICE OF THE DIRECTOR

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DEC 23 1974

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SALEM, OREGON

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December 20, 1974

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Wildlife Director

Mr. Chris L. Wheeler
State Engineer
1178 Chemeketa Street, NE
Salem, Oregon 97310

Dear Mr. Wheeler:

The Soil Conservation Service requested that we submit comments on the draft Little Luckiamute Watershed Work Plan and Environmental Statement through your office. These are covered by the following paragraphs.

Pages 48 of the Watershed Plan and 11 of the Environmental Statement mentions the various recreational facilities available on Teal Creek Reservoir. The reduced pool in the summer months will expose mud flats and limit the access available to bank anglers. Boat ramps would have to be extended to the low pool level for boat angler access.

Pages 34 of the Watershed Plan and 16 of the Environmental Statement states "Operation of anadromous fish mitigation facilities at Teal Creek Reservoir will include all functions necessary to trap and hold adult fish." It should address the possibility of Willamette River cutthroat using Teal Creek during the fall and winter months. The facilities would have to be carefully designed to handle both kinds of fish.

Page 38 of the Environmental Statement says "Reduction of peak flood flows will decrease bank and channel erosion." Experience on other streams has been that once peak flows are contained, reservoirs frequently are evacuated to cause bank-full flows for prolonged periods. That can cause greater bank erosion than unregulated freshets of shorter durations.

Page 36 of the Environmental Statement assumes a deer density of four deer per square mile for the wildlife habitat lost to

Mr. Chris L. Wheeler
December 20, 1974
Page 2

reservoir and diversion construction. The figure should be 30 deer per square mile.

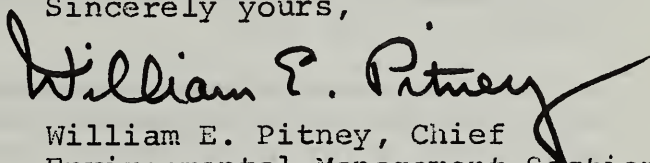
Pages 39 and 40 in the Environmental Statement discusses favorable and adverse environmental impacts associated with the reservoir. It states that more than 1,000 acres of wildlife habitat will be lost or impaired, but that (440 acres) waterfowl resting area is gained. Waterfowl use probably will be limited since the reservoir would be located on the periphery of the flyway. The big game habitat is especially valuable in the severe winters, hence is much more important.

Pages 47 of the Watershed Work Plan and 39 of the Environmental Statement discusses higher value crops associated with increased available irrigation water. The introduction of new crops such as vegetables, strawberries, seed crops and higher yields will also increase the incidence of deer damage to the crops.

Page 40 of the Environmental Statement says that "2.5 miles of stream will be inundated by the reservoir." It should note that that is valuable habitat for furbearers, tree nesting birds, and miscellaneous small mammals, as well as aquatic life.

If there are questions regarding our comments. please contact me.

Sincerely yours,


William E. Pitney, Chief
Environmental Management Section



FORESTRY DEPARTMENT

OFFICE OF STATE FORESTER

2600 STATE STREET • SALEM, OREGON • 97310 • Phone 378-2560

12/17/74
WBC

December 18, 1974

U. S. Department of Agriculture
Soil Conservation Service
1218 S. W. Washington Street
Portland, OR 97205

Gentlemen:

The draft environmental statement and work plan for the Little Luckiamute River Watershed has been reviewed by several of this department's field and staff personnel. As indicated by the report, we have made earlier contributions which are included in the plan.

We believe the statement adequately deals with forestry concerns including the taking of forest land out of production, management of private forest land, and protection from fire.

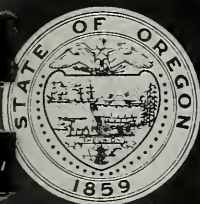
Very truly yours,

J. E. Schroeder
State Forester

By:

Philip D. Brogan
Management Analyst

JES:PDB:cm



SOIL AND WATER CONSERVATION COMMISSION

20 AGRICULTURE BUILDING • SALEM, OREGON • 97310 • Phone 378-3810

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Mr. James Mitchell
State Conservationist
1218 S. W. Washington Street
Portland, OR 97205

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JAMES W. MITCHELL, Portland
State Conservationist, SCS, USDA

Dear Mr. Mitchell:

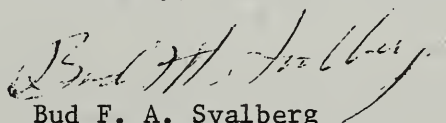
The State Soil and Water Conservation Commission has reviewed the draft work plan and Environmental Impact Statement for the Little Luckiamute River Watershed in Polk County, Oregon.

We compliment you on the completeness and thoroughness of the Watershed Work Plan, and we concur in full with the plan.

We feel the Environmental Impact Statement is also well prepared and fairly represents the situation.

As you well know, the State Soil and Water Conservation Commission strongly endorses this project.

Sincerely,


Bud F. A. Svalberg
Director

BFAS:rj

cc: Randy Smith
Daryl Otjen
Jack Madison

11000185
12/23/74 WML



STATE ENGINEER

WATER RESOURCES DEPARTMENT

1178 CHEMEKETA STREET N.E. • SALEM, OREGON • 97310 • Phone 378-3739

TOM McCALL
GOVERNOR

December 19, 1974

File No.

CHRIS L. WHEELER
State Engineer

James W. Mitchell
State Conservationist
Soil Conservation Service
1218 S.W. Washington Street
Portland, Oregon 97205

Dear Mr. Mitchell:

Enclosed are the comments we have received from other agencies on the Little Luckiamute River Work Plan and Environmental Impact study.

Our own comments would indicate that this proposed project provides the people of the Little Luckiamute Basin the opportunity to control and put to beneficial use the water resource of the watershed.

My staff has worked closely with your staff and the local sponsors and we feel the review drafts of the work plan and environmental impact study adequately describe the proposal and effects within the watershed.

If we can be of further assistance, please feel free to call.

Very truly yours,

CHRIS L. WHEELER
State Engineer

CLW:cjw
Enclosure

Received
Feb 4, 1975
wire

COMMENTS BY THE OREGON ENVIRONMENTAL COUNCIL REGARDING THE
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SOIL CONSERVATION
SERVICE LITTLE LUCKIAMUTE RIVER WATERSHED PROJECT, POLK COUNTY
OREGON - DECEMBER 15, 1974

The Oregon Environmental Council is pleased with the opportunity to comment on and review the Draft Environmental Impact Statement (DEIS) concerning the Little Luckiamute River Watershed Project. Our comments will deal with several aspects of the DEIS which will have an important and critical effect on the environment. Because of this importance, the DEIS should be complete, accurate, and precise in its evaluation of the possible and probable environmental impacts. Unfortunately, we believe this DEIS falls short of and fails to meet these criteria. The details of our criticisms and comments are as follows:

1. AESTHETICS:

We are pleased with the recognition the DEIS gives to the preservation of the Little Luckiamute River stream channels and their banks. These streams are heavily vegetated on both banks which increases wildlife habitat and the beauty of the area. However, we are concerned with statements which mention controlling weeds and undesirable tree growth in natural channels. Just what is undesirable tree growth? This goal seems to be inconsistent and incompatible with the above-mentioned practices of preserving the stream channels of the Little Luckiamute River. We are sorry to see that the relationship of weeds and tree growth between wildlife and their habitat, and the possible biological characteristics in how they relate to water quality is not discussed.

The DEIS does not provide a detailed map showing the exact location of the different structural measures. A few drawings or pictures giving the general features of the project would be helpful in determining to what extent the proposed action would disrupt the "natural visual environment."

We are also concerned about the effect the diversion dam and canal would have on the falls at Fall City. These falls are one of many unique attractions in the local area. However, from the DEIS it is hard to ascertain the possible effect these structural measures would have on the falls. We believe these falls should be preserved and the area surrounding them maintained in order to preserve and enhance the beauty of the area.

Finally, in regard to the aesthetics, we question the DEIS in its statement that the land to water ratio will be increased. How did the DEIS arrive at this conclusion and what will the new ratio be? Presently as it stands, this project seems to be counterproductive in that it will decrease the ratio by flood prevention and yet it will increase this ratio as a result of the reservoir. Consequently, we believe the DEIS seems to be making a big issue over what seems to be a very small increase in the land to water ratio. Therefore, the figures and justification behind these DEIS statements should be presented.

2. RECREATION:

In this project, the policy of recreation is of major concern to us. We agree that the need for recreation does exist to some extent; however, too much recreational use can be just as harmful on the wildlife and environment as any other activity of Man. Our concern here is the projected capacity of 420,000 visitor days a year with a peak load per day of 6,600 visitors. This is quite an influx of people for a small town of 800. We believe that with this many people projected for recreation alone, the quality of the environment would be lessened by an increase in air, noise, water and land pollution. We sincerely believe this projected capacity is overstated. This belief is based partially upon the following information.

At Detroit Lake on the North Santiam River, there are approximately 3,600 acres of reservoir surface which attracted 822,000 visitors in 1971. This DEIS proposes a 360 acre reservoir surface area with 420,000 visitors a year. In other words, you have only a tenth of the surface area of Detroit Lake, but you expect half of the visitation. A better alternative would be to decrease the expected capacity of the area. This we believe would lessen the impact on the environment, as well as provide a higher quality recreation experience for visitors.

There are several instances in the DEIS that mention future developments and expansions to provide for the expected increase in recreational use. This needs to be more specific and include information such as where the expansion and developments will be, how will the land be used, and is this increase really forthcoming. There can be only so much recreation in a limited area before it has a negative effect. Consequently, a loss in recreational and aesthetic values would occur.

3. WILDLIFE:

It was mentioned in the project purposes and throughout the DEIS that "wildlife habitat of the Little Luckiamute River is to be conserved." Yet as a result of this proposed action, there would be a total loss of 787 acres of wildlife habitat and another 258 acres modified as a result of recreational use. In addition to this, the DEIS states it that wildlife is disrupted and their habitat changed as a result of agricultural and logging operations. Because these actions will still be carried on and for reasons mentioned above, we find it hard to believe that wildlife will be preserved. This is far from wildlife enhancement as proclaimed by the project purposes. To nullify this loss of wildlife habitat, perhaps the acquisition of at least an equal amount of land lost as a result of this project should be set aside for a wildlife sanctuary or refuge. This would help some to minimize the negative impact which this project would otherwise have.

Along this same line, the DEIS states that new roads, waterlines, and powerlines would have to be constructed. However, the DEIS does not mention where these are to be built. The construction of these measures could have an additional negative effect on the wildlife depending upon the placement of these measures.

The DEIS also speaks about animal crossings which would have to be constructed across the diversion canal. However, the travel routes of some wildlife would still be disrupted by the reservoir and canal. For all the above mentioned reasons, we believe that this project would have a serious effect on the wildlife and their habitat. It should be noted that the number one reason for the loss and disappearance of wildlife throughout the world is the destruction of their habitat.

We agree with the DEIS that the project would be beneficial to some extent to the fishery operation, but it would also have some non-favorable impacts. Of prime concern is the loss of approximately 4 miles of fish spawning area which would be blocked by the reservoir. The projected impacts and benefits should be weighed and compared more closely to demonstrate just how much fish enhancement would take place.

4. WATERSHED AND WATER QUALITY:

We agree with the DEIS in its plans to increase plant and tree cover in the watershed where the original vegetation was lost, either directly or indirectly by Man. This should alleviate some erosion in the Little Luckiamute River. However, the DEIS is incomplete and lacking some very essential information in its discussion of the watershed and its relation to water quality. For example, the DEIS has not completely or specifically stated the areas of logging, livestock, and mining in the watershed. These areas and how they relate to water quality need to be brought out clearly and specifically. There is also no mention of the waste treatment facilities of Falls City and/or other places in the watershed which could effect the quality of water in the reservoir. The DEIS has also left out some much needed information concerning the septic tank effluent that is proposed to be pumped to drain fields. Even though this is outside the reservoir drainage, all of these operations combined could have a tremendous impact on the quality of water in the area.

These are a few examples of things which need to be mentioned and clarified. There are so many more items that need to be included in this DEIS that it forces us to believe that this DEIS is grossly insufficient in its treatment of water quality. From the information that is given, we question if water quality will really be increased or erosion minimized as long as logging and road construction continues to be carried on in the watershed.

5. SOLID WASTE:

The DEIS again is not clear and specific enough in how it plans to deal with the solid waste problem. The following information should be given so we can get a better understanding of the impact that solid waste would have on the area:

- A. Quantities and qualities of waste created;
- B. Will hazardous waste be produced;
- C. Has increased solid waste loads from population influx been anticipated;
- D. Where will wastes be stored; and
- E. The brush that results from clearing - will it be burned or carried away?

Again, these are just a few examples of information that is necessary to determine the impact that solid waste would have on the environment.

6. NOISE POLLUTION:

The DEIS states that there will be an increase in noise pollution during and after construction. However, once again, there is very little or no factual information contained in this DEIS that concerns itself to noise pollution and the information that is given is very general and non-specific. This type of information is hardly enough to satisfy our needs in order that we may determine what impact noise could have on the area's environment. Again a few examples of information that should be contained in the DEIS follow:

- A. Present noise levels adjacent to the proposed site;
- B. The zoning and plans for undeveloped lands; and
- C. Ways to monitor noise levels in the future.

7. LAND USE AND FUTURE PLANNING:

In the installation of this project, the DEIS states there would be 14 families, including three farm operations, that would have to be relocated. However, there is no mention of where the relocation would take place. Also, since three farm operations would be displaced, this means that agricultural land would be lost due to the project. Because of growing concern over land use policies, we question if this project would be providing the best possible use for the land.

The probable development of agricultural and forest land that could take place as a result of this project is another primary concern. As the DEIS states, there is already some residential development that has taken place around the Little Luckiamute River. Our concern here is that this project will create more rampant growth.

Throughout the DEIS there is mention of a comprehensive plan for the area, but it does not tell us what is in the plan. The DEIS should describe the plan so the interrelationships of the project, the planned future development, and the environment can be determined.

Another concern that could have an indirect effect on the environment is the possible influx of families of workers, supervisors, and other personnel that are connected with the project. This influx would also have an effect on the economics.

The DEIS states that there are no water resource development projects currently being planned for this area. This is an indirect statement. The Corps of Engineers is studying the Luckiamute River and its tributaries to see what can be done to minimize flood damages and to develop the water resources of the area. So consequently we have plans that are overlapping. This should be discussed in the Final EIS.

8. ALTERNATIVES:

The alternatives in this DEIS are almost completely devoid of any factual information which would help us determine the impact these alternatives would have on the area's environment. The following alternatives should be included.

- A. The alternative of other reservoir sites that would be smaller in nature, but would operate in combination with each other should be fully investigated.
- B. The alternative of recreation and land treatment without construction of a reservoir should be mentioned. The recreation activities could include fishing, canoeing, hiking, sightseeing, bicycling and others. This alternative could coexist along with the project proposed by the Corps of Engineers where boating and other water recreational activities would take place.

9. SHORT TERM vs LONG TERM USES:

A few resources that would be effected by this project are natural free-flowing rivers and streams and agricultural and forest lands. These resources are on the decline today for various reasons and unfortunately would be a long-term result of this project. There is also no mention of how this project conforms with the reports done by the Presidential Task Force on Federal Flood Control.

10. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES:

As mentioned above, we are concerned about the possible development of the area as a result of this project. How strong is this potential? Also the structural measures of this project as well as the future land policies would be irreversible.

11. SUMMARY: This DEIS is inconsistent and incomplete in many areas and more study needs to be done to provide the necessary information. Some of these areas are water quality, solid waste, noise and air pollution, as well as future land use policies. Also, the relationship or action of the Corps of Engineers to this entire region should be clear. The many questions left unanswered by the further consideration of the proposed action should be terminated until all the factual information is presented and all the impacts assessed.

OREGON ENVIRONMENTAL COUNCIL
2637 S. W. Water Avenue
Portland, Oregon 97201
503/222-1963

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1974-1975

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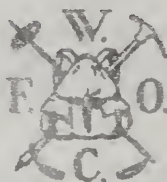
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324 "C" Street S.E., Washington, D.C. 20003

Northwest Conservation Representative:

DOUGLAS SCOTT
4534 1/2 University Way N.E., Seattle, Wash. 98105

James Mitchell,
State Conservationist,
Soil Conservation Service

December 31, 1974

Dear Sir:

Re: Little Luckiamute Watershed Project

I appreciate receiving an EDS on above. Though late for an official response I do want to register my feelings and offer the support of the organization listed on this letterhead.

after study, survey of the area and consultation with Dr. Ray Broderman of the OCE Geology Dept. I have come to the conclusion that the benefits outweigh the disadvantages.

My questions have been answered with the exception of two:

1. Will the families dislocated by the project be reimbursed an amount per acre that will enable them to purchase comparable land in the same general area and:

2. Has any provision been made for the movement of wildlife across the 7,500 ft. fenced diversion canal?

With energy conservation necessary, this place of recreation close to urban areas will be a real benefit and, I hope, will also benefit, indirectly, our over-used wilderness areas.

I'll be following developments with interest.

Sincerely,
Cathie Hartley,
Oregon Vice-Pres. FWOC.

Received 12 23 74
WBC

December 23, 1974

James W. Mitchell, State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
1218 S.W. Washington Street
Portland, Oregon 97205

Dear Mr. Mitchell:

Enclosed are some comments from the Mt. Jefferson Group of the Sierra Club on the Little Luckiamute River Watershed project in Polk County. We realize that these comments are tardy but hope that they will still be of some value. Thank you for your consideration.

Sincerely yours,

Richard Iltis

Richard Iltis, Chairman
Mt. Jefferson Group, Sierra Club

COMMENTS ON THE LITTLE LUCKIAMUTE RIVER WATERSHED WORK PLAN,
DRAFT ENVIRONMENTAL STATEMENT DATED MAY 1974. Comments submitted
by the Mt. Jefferson Group, Sierra Club, Salem, Oregon
December 17, 1974.

These comments were prepared after study of the work plan, the
draft environmental impact statement, observations made around the
site of the project and discussions with Soil Conservation Service
project personnel, citizens residing in the project area and other
interested citizens.

RECOMMENDATION; That the project be reevaluated by a broadly based
committee made up of representative landowners who stand to benefit
from irrigation and flood control measures, city of Monmouth,
Falls City and Polk county residents and other less interested but
concerned residents living nearby. The committee to use the
management by objectives technique to assess the merits of this and
alternative plans involving less commitment of resources.

ANALYSIS: The project is not justified as proposed. Although
there is a general need to store and conserve water for irrigation
and municipal uses, the other claimed project objectives are of a
secondary nature and are not a basic need of the area.

RECREATION: The recreation aspects of the reservoir are greatly
overrated. Perhaps the rationale promoting the recreational
values would be convincing if the reservoir was proposed for west
Texas; but here in Falls City, Oregon with the Willamette River and
the Greenway park system only 15 miles downstream and the Pacific Ocean
beaches accessible just 40 miles to the west, the recreational claims
are ridiculous to anyone familiar with the area. The recreation
claims may fit a formula, but they defy logic.

FISH AND WILDLIFE: The effects on fish and wildlife are more likely to be adverse than beneficial. More than 4 miles of excellent spawning beds will be lost and over 5000 acres of outstanding wildlife habitat will be converted to high intensity cropland and facilities for water storage and distribution. It is noteworthy that reference to Oregon Wildlife Commission is missing from the bibliography.

FLOOD CONTROL: Flooding is caused mainly by backwaters created by debris jams in the streambed and at bridges and culverts. These problems can be resolved without the project. There are very few or no flood control benefits available in the watershed to utilities, commercial, industrial or residential sources. The only benefits are to agricultural lands.

LAND STABILIZATION: Most of the land treatment measures discussed are already underway and will not be significantly effected by the project. The relative insignificance of land treatment measures effected by the project is demonstrated by the absence of any claim of monetary benefit by the project study.

QUESTIONS RAISED BY THE ENVIRONMENTAL IMPACT STATEMENT:

page 1. "Annual farm employment will increase by 16,410 man days."
Basis?

page 11. Parking space for 825 cars is allowed in the EIS,
560 spaces in the work plan, p. 37.

page 2. Reservoir area is given as 340 acres in the summary of
environmental impacts, 440 acres in structural measures section
on page 7.

page 9. To what degree will stumps be removed from the reservoir
area?

page 9. Insufficient detail is available to evaluate the diversion
system.

page 11. Insufficient detail is available to evaluate the irrigation
water distribution system.

page 12. Has the sanitation plan been approved by the Department
of Environmental Quality?

page 16. Will provisions for fish to pass out of the reservoir
in April, May and June conflict with objectives of water storage
for irrigation?

page 21. On what basis is it claimed that "Recreational activities
...have a small but rapidly increasing impact on the general area"?

page 25. The claim that the Polk SACD has an active program that
will provide the leadership to accomplish the land treatment and
related phases of the project seems to gain little support from

the facts that follow. Conservation plans have been developed on only 6 of 60 farms covering about 1% of the watershed. Only 20% of these planned conservation practices have been applied.

page 28. Why was rowcrop production established in an area where it can be continued only if flood protection is provided?

QUESTIONS RAISED BY THE WORK PLAN:

page 85. Why are irrigation benefits claimed for 4100 acres when only 3400 acres were signed and paid for?

page 99. Why withdraw 2000 cfs at the diversion dam and return 800 cfs to the river 320 feet downstream?

page 19. If there is sufficient natural flow now to irrigate 1080 acres with a full season of water, why are only 740 acres now irrigated? (page 67) This does not indicate a great demand for irrigation water.

page 46. If "Most of the irrigated cropland will be situated outside the flood prone area," how are the large benefits claimed for flood control justified?

pages 52 and 53. Benefit/Cost ratio is only 1.4:1 when secondary benefits are excluded from the computation as they should be.

page 87. Farming costs were developed for a 530 acre farm and 4100 acres are to benefit from irrigation provided by the project. Does it follow that only 8 farms will benefit?

12/13/77
HAC

Mr. James W. Mitchell
USDA Soil Conservation Service
1218 S. W. Washington St.
Portland, Ore. 97205

Subject: Little Luckiamute River Watershed Work Plan

Dear Mr. Mitchell:

The Board of Directors of the Monmouth-Independence Chamber of Commerce passed a resolution at its meeting on December 11, 1974, supporting the Little Luckiamute River Watershed Plan.

The economy of our area is based on three major industries--agriculture, lumber mills and the Oregon College of Education. The Plan will aid all three by supplying irrigation water for over 4000 acres of land, a more reliable supply of water to the city of Monmouth (and thus to OCE) and additional water in case it is needed for industrial development in Independence. There is a reliable source of well water at present in Independence, but future industrial needs could require additional sources.

New industry is desired for our area and an adequate supply of water is essential for most industries. The growth in population resulting from additional industry will also increase the demand for water.

The recreation aspects of the plan will aid the local economy as well as supply near-by sporting opportunities for local residents. The additional jobs created during the construction phase and the continuing maintenance will benefit the economy of our rural area.

The above are some of the economic reasons for our support of this plan, but we also feel that the humanitarian need for greater food production from each acre of farm land is reason in itself for our support. The added production from the 4000 additional irrigated acres will contribute to this greater need.

If you have questions or wish further local support for this project, we will be happy to supply any answers or give any assistance possible.

Very truly yours,



Robert Brownell
President

CITY OF FALLS CITY

Falls City, Oregon 97344

December 9, 1974

Soil Conservation Service
1218 S. W. Washington Street
Portland, Oregon 97205

Attention: James W. Mitchell, State Conservationist

The Falls City Comprehensive Land Use Planning Committee has devoted a large portion of the last two meetings to lively discussion of the proposed Little Luckiamute Watershed Work Plan of May, 1974, and its impact on our City.

The unanimous decision reached on November 26, 1974 was that the Committee is unalterably opposed.

In short, the principal reasons for the opposition are:

Proximity to the great amount of careless recreationalists expected to impinge on our public facilities which are sorely inadequate.

Disruption of the city's water mains, public utilities lines, streets, roads and private properties. The air and noise pollution for a long period of time during construction. Damage to streets and roads leading in and out of Falls City. Police protection is not adequate to handle the vandalism that is a natural concomitant of large numbers of people. City taxes are not large enough to handle the expense to the public purse and the few small businesses are in no position to expand during these uncertain times. Little or no benefit would inure to the City which would be only a small town to pass through to the recreation area.

Individual members of the Committee have expressed themselves at greater length on the subject and will continue to oppose the project at every opportunity.

Very truly yours,

Falls City Comprehensive Planning
Committee

Hladona Kallestad

Hladona Kallestad, Sec. pro tem

LK/lp

Falls City, Oregon
Dec. 14, 1974

Sail Conservation Service
1218 S.W. Washington St.
Portland, Ore.

Before the deadline for comments on this Teal Creek Reservoir, let me add mine, for what they are worth.

First, this area has been my home for over fifty-three years. I was born in sight of the Little Luckimute River, played in it and was even baptized in it. I have owned property bordering on it since 1939 and have worked all these years to keep it clean along the banks and a place to enjoy.

This area is one of the most beautiful spots in the State with the triple advantage of good water, rural peace, but not far from markets.

If the proposed dam on Teal Creek is built and one above Falls City on the Little Luckimute to transport this water by viaduct over two miles it will be a wild and most needless scheme foisted on the citizens.

Voters elected to stop this before and officials appointed to carry out this wish should consider a mandate to do that.

It will cost millions of dollars which property owners cannot afford to struggle with. Large segments of land will be removed from the tax rolls and farmers cannot pay the added water fees per acre. Home owners cannot accept the added tax to compensate for this either.

Falls City's water system will be moved and the water we already own in abundance will be bought back thru meters. Sewers will be forced upon us when we already have paid for drain fields and required disposal.

Who will benefit from these recreation areas we can't afford to build, police, nor keep in repair from vandals?

I speak from an on the spot eye witness point about vandalism from this type of people because my property borders the Riverside Park where playground equipment is torn apart and destroyed. The tables are broken & dumped into the river, toilets not possible to keep.

Strange adults meet our children there for God knows what and leave. Pot is being smoked openly and distributed.

I am a widow, self-supporting and spend my summers cleaning my land of debris made by these swarms of skum.

A small creek runs thru under South Main Street and across my land bordering this park. In the winter it is a raging torrent. These vandals dump boards, limbs and any object they can find into it, even damming it with rocks. This is a tributary of the Little Luckimute and should be protected from such destruction. I clean it up every year to only repeat it again and again. I'd like to know what can be done to prevent this mess. And what can be done to prevent it in Gerlinger Park and the City Park where vandalism runs rampant and not safe for children to play. What will it be in all these recreation areas proposed around this water project and who will pay for that law enforcement. It contains too much expense to Contemplate!

Sincerely Eva R. Busbark

Dear Sir:

Received
12/16/74
1042

I am writing in reference to the Little Luckimute & Feal Creek Dam Project in Polk County. I am against this project for several lengthy reasons which I will not go into at present. However, we (my husband and myself) wished to express our negative feelings to you so you would realize it is just not wanted.

Thank-you

Sincerely,

Leslie E. Davis

Larry E. Davis

Dec. 14, 1974

U.S. Dept. of Agriculture
Soil Conservation Service
1218 S.W. Washington St.
Portland, Ore. 97205

REC-16
12/18/74
JPC

Gentlemen:

It has come to my attention that the question of installing & building a dam on Seal Creek is again brought before the people.

As a resident of that area who would be displaced and in the center of the lake I strongly object to this project.

I sincerely hope that the project will be stopped before any more expense has been reached.

Respectfully,

Mrs. Bert Ellis

Rt 2 Box 164

Dallas Oregon 97338

Falls City, Ore. 97344
Dec. 11, 1974
328 So. Main St.

Dept. of Agriculture
Soil Conservation Co.
Portland, Ore.

I understood that you desire to know the taxpayer's thoughts and long-range ideas of a dam on the Luckiawute above Falls City, a transmission line to the proposed Test Creek Reservoir, in Bridgeport area.

I wish to comment basically upon the environmental aspect of such a plan. We who live here know that our area borders on one of a kind, but that is not all bad. In fact we entertain such a state guests each year who are simply enchanted that there is still a place where the natural growth and streams and beauty remain untouched. Most such places are damaged by herds of people and maligned by cycles and sportsmen who care nothing for the environmental well being. When we mention to out of area people that there is a rumble of a dam and reservoir, they are appalled that Polk County and local folk would be a part in such a plan. Some folk have even written back urging us to protest this project. They have experienced something of the kind in states where they live and the result is not always a good thing.

Falls City, Black Rock, Camp Hillman, Bridgeport

Soil Conservation Co.

Page 2.

are in Tree Farm Regions, Clean Mr. Streams, Natural beauty and wildlife, and our population needs are served best by not crowding more people in to wreck houses on our ecology standard as is.

Only a portion of our farm land owners and taxpayers are behind this proposed project. No doubt your department hears mainly from the hopeful ones. Since I am not in the planning field I shall not comment for or against them. But I shall demand equal time to protest the cost factor. First of all the studies and cost figures are several years old and do not reflect today's expenses and costs of building, then we have a maintenance & the greatest cost and policing cost that will surely follow these happy people who will be away from their home land having a heck of a good time on our tax dollars.

At a time when people of all ages are hurting from taxes they are not to be encumbered with more and we are not so naive as to believe these Gov't grants are free money. Easy to obtain perhaps but certainly we the taxpayers are carrying these burdens financially. Grant seems our rights and privileges are diminishing equally as fast as our tax dollar value. so I am one who will protest this proposal on a basic need to save something beautiful that is not a greater need to destroy.

Sincerely,

L. H. M. Smith

Received
12/12/74

Dear Sir,

Dec 10

It has been brought to our attention that there are people who want to dam up Jule creek & the Little Lukamute River. As property owners we would like to say -
"Don't let this happen!"

Oregon is known for its clean naturalness. We feel if you dam up the natural waterway it will spoil the natural balance & beauty of the land. Also, if this is done to create "man-made" lakes for resort areas it will deface the land by over crowding. Oregon has lots of natural areas to offer people without making anything new. The resorts would bring people in & spoil the small towns of yester year. These towns are part of our living history. Don't ruin them by bringing in crowds who don't care what things look like after they've seen them & gone.

Thank you,

m & Mrs Robert A. Benier
property owners Falls City, Oregon

Received
12/17/74
WBC

833 Parry Rd
Talle City, Ore 97344
14 December 1974

Mr James W Mitchell
Soil Conservation Service
1218 Washington St.
Portland, Ore, 97205
Dear Sir:

I am writing to protest the bondolph known as the Little Leechmanite Waterflood Work Plan of May 1974. This project has been dreamed up by farmers wanting irrigation water. Because the irrigation project is not economically feasible they have cooked up a grandiose recreation plan. The idea is to charge the greatest share of the cost to recreation. Their plans envision thousands of visitors per day. This doesn't make sense. How many people will come to this little puddle for water oriented recreation when by travelling a few miles further they get to Detroit Reservoir?

As for irrigation, if we are to spend money for water let us put it on to dry land instead of land that has water most of the year. The same amount of money spent in bringing water to arid land will bring in several times the increase in crops.

Sincerely,
W. C. Hatch

Nov 24, 1974

Little Luckiamute
Water Shed - Falls City Oregon

Dear Mr Mitchell I am writing in
protest against the Little Luckiamute Water
Shed. I like everything about the area.
I live in now and so do my wife & four children.
We are against this proposed man made lake
that will have recreation on it and will draw
thousands of people to the area we live in.
I know that there are some farmers in the
proposed lake area that are pushing for the lake,
they plan on getting rich and don't care about
people who are very happy to live in happiness
in this very nice quite rare part of yesteryear
Oregon. I don't want to see hundreds of those
hop head creeps coming into this area, we
have a few now and that's too many. If that
damn lake goes in big outside money will come
into this area and property taxes will soar out
of sight. People now feel as I do will be forced to
sell out if the lake goes in, because they will
be unable to pay the higher taxes the lake
will bring to the immediate area. This damn
lake was voted out by the people a couple years ago,
that should have been the end of it but here it
comes again. Can you Mr Mitchell keep it out
We like it as it is Sincerely Edward Hedrick

Rec'd
12/10/74

Falls City, Oregon
December 9, 1974

Soil Conservation Service
1218 S. W. Washington Street
Portland, Oregon 97205

Attention: James W. Mitchell, State Conservationist

Dear Mr. Mitchell:

As a member of the Falls City Comprehensive Land Use Planning Committee, I view with alarm the proposed Little Luckiamute Watershed Work Plan of May 1974. I fear the environmental impact on the only incorporated community contiguous to the area involved. Falls City has a tax base that is sufficient only to stay solvent and any local expenses that add to the tax burden, such as greater police protection, more costly street and road maintenance and related costs will drive the taxes even higher. There is a provision in the "Diversion Canal" portion of the Work Plan which requires the removal of some 14 residences from those tax rolls, still further increasing the present sky-rocketing rates. The City has no large or even moderate sized income-producing industries; it subsists on taxes from private residences and very few "one man" service-type businesses. Falls City has no "slum" or "ghetto" areas but the grandiose plans would soon create such an area on the southern out-skirts of the village which is now largely agricultural, pasture, tree-farm or residences that enjoy a self-sufficiency. Not even the most sanguine proponent can imagine any cultural or financial benefit to the City to off-set the cost to the City. Don't wreck it!

Has any member of the Falls City governing body, collectively or individually, been briefed in depth on the true final environmental impact on the City in practical terms? If so, when and who were contacted? Has anyone in authority and fully cognizant of all the factors to be encountered been over the ground on foot in company with a knowledgeable citizen of Falls City to learn and digest what the eventual impact would be? Has a financial or profit-and-loss status study been made of projects similar to the one under consideration? From all the information so far obtained, few or none have shown an adequate profit, leaving the County holding the bag, tax-wise.

In view of the present and future uncertainties in the economy, inflation, material shortages and related facts, the whole project should be shelved or abandoned completely and permanently. It appears that a champagne price-tag is being forced on a community which has funds for only a short beer.

December 9, 1974

The document is termed a "draft" and "work plan" and as such it would seem to be flexible; however, the compulsory term "will" is used throughout instead of the permissive "may" and I personally interpret that to mean we are to be victims of a "fait accompli"; I resent that - it smacks of demagoguery.

I had intended to present statistics which would tend to show the complete undesirability of the project in and of itself and in conjunction with the welfare of Falls City. On further deliberation I have concluded that many such opinions have reached your desk, so I will confine my remarks to the human factors. Mr. Mitchell, you are a conservationist; what do you propose to conserve, the welfare of people or "things"? Without people there would be little point in conserving "things"! In this case a small community may well pay for the unrealistic project by involuntary bankruptcy and pass into limbo. The people of Falls City live here because it is small, clean, healthy and a sanctuary from the increasing troubles of urban living. We do not want it destroyed by projects which are dangerous to the even tenor of our way.

In these troublous times Falls City is vulnerable and does not deserve to be run over rough shod by those who propose to rule from afar and ignore the impact on a small segment of society.

Please seriously consider the whole thing as though you could very well be personally involved did you but live in our little community. Put the whole thing away until much more vital state and national matters are more settled.

Very truly yours,

Madona M. Heilestad

Dec. 14, 1974
Dallas, Oregon

James W. Mitchell
United States Dept. of Agriculture
Soil Conservation Service
1218 Washington Street
Portland, Oregon 97205

Received
12/15/74
JWC

Re Proposed Little Lucianute West Creek
dam project.

Dear Mr. Mitchell:

Have you ever known a hill top
meadow? A place where you could go in
solitude to lie on your back on the warm
earth to watch a Sparrow Hawk wheeling
and diving above? Or stretched waiting on
that meadow on a chilly spring morning
in wait for a red fox to come leaping high
through the wild grasses on his morning
saunders of the field mouse runs. And on
your way back down, caught a glimpse of a
doe and her fawn stepping high through
the fern patches. Being a conservationist,
you must have known such a place. One
that has been virtually untouched, unsailed
by man. I know one. I can deeply

about it. I thank God for every day
that my life is touched by this precious
place, this space in time. It touches
me deeply that this place, since it is in
the path of the proposed Teal Creek project
may eventually be destroyed for all time.
The meadow covered by an asphalt parking
lot. The surrounding area to be covered by
a cement dam and resulting lake. The
wild life destroyed or driven away forever.

I realize that economics are as important
as aesthetics. I realize this project is the
dream of men who pride themselves in
their vision and foresight. Although I
highly suspect that they are afflicted with
tunnel vision. But what of the future,
when this good earth is finally dammed
and paved completely? When every extra
drop of water is tamed and stored and
re-stored, in order to turn the turbines,
to fill the bellies of the masses. How
precious then, a wild place, a glimpse
of a happy fox will be.

Why does man consider it his
inalienable right to kill, imprison
or tame all wild, free things? Be.

they, forests, trees, earth or water? What
is wrong with walking a bit more
softly on this earth, leaving a part of
it untouched for the future? Why must
he feverishly, in a few short years,
scrape, scar, and cover with concrete
all beautiful things? Things that have
endured all the eons before his existence.

John Muir spoke my feelings
explicitly when he spoke against the
damming and destruction of his beloved
Hetch Hetchy valley. "These temple-
destroyers, devotees of savage
commercialism, seem to have a perfect
contempt for Nature, and, instead of
lifting their eyes to the God of the Mountains,
lift them to the Almighty Dollar. Hane
Hetch Hetchy! As well dam for
water-tanks the people's cathedrals
and churches, for no holier temple
has ever been consecrated by the
heart of man."

Sincerely,

Frederic L. Foxworth

Rec'd 12/12/74
WAC

Independence, Oregon 97351
Rt. 1, Box 129-A
December 10, 1974

James W. Mitchell,
State Conservationist
Soil Conservation Service
1218 S. W. Washington Street
Portland, Oregon 97205

Dear Mr. Mitchell:

My comments follow on the Little Luckiamute Watershed - Teal Creek plan.

- 1- More recreation projects are probably not needed. If one is going to be built anyway, at least put it in a desirable place such as the Willamette River Greenway.
- 2- According to the Teal Creek DEIS this project calls for 2 reservoirs, Teal Creek and Grant Creek, 2 recreation developments, 94 acres of stream-side easement, and 10 farm ponds. This is far in excess of the one dam that the promoters are so fond of speaking of.
- 3- Plan makes mention of 6 restrooms and 6,000 to 10,000 people per day using them. With each flush, Polk County is left with more waste that according to the plan is to be pumped out of the area. Where? Into what? A truck? A Moat? A septic tank? Perhaps a county wide sewer system? I can't guess which since no reference is made to the cost.
- 4- Recreation and fish enhancement costs are to be paid by a countywide advalorem property tax with some contribution by fishery agencies and recreation user fees. How much is coming from the fishery people? Plan states fishery benefits of \$40,140. This only a paper figure and Polk County would never see any of it. How much of the \$630,000 claimed for recreation is just another paper figure?
- 5- According to the plan, sport fishing of 3750 angler days and 31,500 lbs. of commercial fishing will be provided at the coast. This is not in Polk County and the coast does not pay taxes to Polk County, but Polk County is supposed to buy them fish.
- 6- The plan mentions 2,940 acres of flooding. How much of this would be eliminated?
- 7- The picture of the flooded out farmstead in the Work Plan is of the Cutting house and whether the dam is built or not would not matter in the event of another flood. The Cutting House is on the Big Luckiamute.

December 10, 1974

8- According to the plan, flood prevention and irrigation benefits of \$280,990 will accrue to 65 agricultural landowners in the watershed area. Who are the 65 landowners? There are only 28 landowners members in the District. This includes the chairman who has 2 acres and a dead woman whose 7 acres was split into 2 chunks and sold to 2 different people, neither of whom farm. This gets us down to 26 owners or less who may want to use the project of \$13,745,000. This figures out to \$528,654 per farm. A rather high price to pay, I should say. If there is any value at all to the project it has to be in the irrigation, if that is even needed. However, none of these farms are worth anywhere near $\frac{1}{2}$ million dollars.

9- The plan only allots \$280,990 to the irrigation and flood prevention benefits. Costs, also the plan are \$345,610, a difference of \$64,620 - in the minus column. This is like going to a bargain sale and buying goods that are marked up. Then going home to brag about how you were able to get \$30 worth for only \$35.

10 -This project is to solve much of the erosion in the area. Maybe it will. At a cheaper cost however would be proper conservation practices.

11- Drainage mains and tile drains are mentioned in the plan to be used on farmer member land with SCS assistance. This is nothing new and a Teal Creek Plan isn't needed to get this cost-sharing.

12- Under employment decrease the plan states that no jobs will be lost. This is incorrect. There are 100 acres of Forest Land, 300 acres of pasture land. There are 3 farms. To say that no jobs are being lost, we must state that no money is being made from any of this land.

13 - 637 acres of wildlife habitat for birds, small animals and over 2500 deer will be lost forever.

14- The plan will "Decrease potential forest fire hazard". The only way this can be done would be to burn down the forest first, then there would be no fire hazard.

15- Mud flat areas will exist according to the plan. No mention is made of mosquito and midge controls altho both will exist if allowed to breed in the area/^{are} capable of spreading diseases.

16- Who is going to pay for the new waterlines and powerlines? Polk County can be counted on to be the money bag for the new roads needed according to the plan but will they be equally generous with the powerlines and waterlines?

18- Very little mention is made of the havoc created by a canal cutting thru Falls City.

19- Plan states that Monmouth needs more drinking water for future growth. If this is true, let Monmouth drill more wells. Perhaps Monmouth had ought to look into whether more growth is actually desirable before committing itself. Growth carries more liabilities than benefits with the cost of schools and other services.

20- Implied in this plan is that it will get rid of the nutria. This is not true. In fact the project may very well help them to multiply. It will provide an excellent habitat for them.

21- Plan states temporary "Traffic congestion, Harzards to wild-life, increased noise, air pollution and stream tubidity" only during the constroction phase. Any time you get 6,000 to 10,000 visitors a day all these conditions will exist.

22- Qude from the plan "The Little Luckiamute River, upstream from Falls City, is a beautiful river as it cascades over and around rocks in the channel surrounded by vigorous vegetation and the forested background of the steep watershed slopes. The river flows continuously the year around adding to the natural beauty of the area. As the Little Luckiamute flows into Falls City, it plunges into a forty foot waterfall between vettical rock walls. This area is in a majestic natural setting with tall coniferous trees on the adjacent hillsides, the tree-lined Little Luckiamute River, and the fine mist spray created by the falling water".

This tells it like it is now. I see nothing wrong with it.

If the dam goes in, it wouldn't be long before one vertical rock wall bore the statement, "Jesus Saves". The opposite wall would say, "God is Dead". The trees would be charred stumps, the hillsides lined with potato chip bags and the foot of the falls loaded with whiskey and wine bottles. I much prefer to keep it the way it is now.

23- I question the cost benefits ratio. It appears to be based on 1971 figures. No inflation has been figured in.

24- No one wants to live below a 110 foot dam, yet no plan seems to be made to relocate these people. I am from Connecticut and in 1955 an earth fill dam in Winsted broke during a period of heavy rain. That dam was no where near as high as this one, but before that day was done, 18 people were dead in the valley. Thruout the valley a wall of water 32 feet high took everything in sight.

This is not as developed an area as that, however groups here seem to be looking for any kind of growth they can get. Perhaps one day they will get the opportunity to pull someone out of oil ladden water and to scratch for a week because the flood has taken all the water lines and you can get no water to wash the oil off, to stand in a drinking water line, in a food line, to go without electricity for 6 weeks, heat for 3 months and cooking and bathroom facilities for weeks also. To watch when a neighbor's house go down the river especially with the people in it screaming in the window is something I never want to view again.

You see, I have seen progress and growth and much prefer a simple life like most of the residents of the Teal Creek area do.

25- Plan says transportation facilities in the area are good. They aren't bad except for the pot holes in the roads, but if 6,000 people per day were ever to descend on the area we would have pot holes you could hide a bulldozer in.

26- Plan puts brush land at \$75 to \$100 per acre that is suitable for forest land. Home sites are \$250 to \$400 per acre. The area has a five acre minimum over much of it and if you put an ad for a 5 acre tract for \$1250, we really would have 6,000 people in one day here. Prices in the area have run \$4000 to \$5000 and more for 5 acre tracts.

Let's use the alternative plan spoken in the DEIS, the one that calls for no plan at all. Let's stop "Progress".

Sincerely yours,

Joseph Matteo

Joseph Matteo
Marylou Matteo

Marylou Matteo

6 Dec 1974

Received
12/3/74
WAC

Mr. Mitchell

U. S. Dept. of Agriculture
Soil Conservation Service
1218 S.W. Washington St.
Portland, Ore 97205

Dear Mr. Mitchell:

As property owners, taxpayers and part-time occupants of Falls City, Ore. we are vitally concerned about any changes, good or bad, that occur there. We understand there are several projected changes that, if carried through, would dramatically change the liveability in the City of Falls City. At present we enjoy the friendly, helpful attitude of the people that are able to live there. We are not bothered to any extent by disruptive outsiders. The lumber and logging trucks are distracting at times but when their benefit to the industry is considered they become quite tolerable.

The Teal Creek Dam project basically sounds good until you look at the side effects. First, I understand it would disrupt the present Falls City water system in several ways, all detrimental to the users and the taxpayers (I understand Falls City now has one of the highest tax rates in Ore.).

It would require expensive changes in the water transmission system, a dam above the falls on the Little Incliamite and other gross disruptions throughout the area. The present water system seems to be quite adequate, in spite of parts of it ^{it} seemingly antiquated by today's standards. It provides water to the users safely and at reasonable cost. Any changes would certainly entail increased cost as well as possibly meters with most of the expenses to be borne by the users. One thing the river does not need is a dam. It would cut down on the usage it now gets by fishermen, and local children who swim as well as fish in it.

Second, it would naturally attract many outsiders who, for the most part, would have no respect for the local lifestyle and would cause changes in many ways. It would be difficult to protect the environment with so many transients (good examples are Yellowstone and Yosemite National Parks) that would be attracted by the recreational facilities.

The attractiveness of property in Falls City would naturally cause the values of such to increase all out of proportion, again causing taxes to increase. Oregon property already is quite attractive to Californians without adding more incentive. I believe that it would be California speculators that would make the most profits at the expense of Oregonians.

We have our property in Falls City mainly for

the purpose of providing our family with a summer vacation away from the hub-bub and smog of big city life, gradually improving one of the older residences from being a detriment up to being a credit to the community, and possibly our retirement residence.

Naturally, all these transients would cause a buildup in the businesses but they would require many different services, the cost of which would be borne by the local taxpayers for a good portion.

The other project, sewers for Falls City, seems all out of reason. There is no absolute need for them since the home sewage systems in use now and already paid for are working adequately. Here, again there are two major reasons against it, cost & environment. The proposed system would impose a severe burden on the taxpayers for installation and operation and it is not sufficient to protect the environment. Evidently a proper system was not considered because of the even greater costs.

To sum up, it seems that outside influences are trying to change Falls City and the ~~surrounding~~^{surrounding} area to their benefit and to the detriment

of the City of Falls City, the people that live there
and have grown up there and all those that
now enjoy visiting there, and all this in spite
of the need to preserve the natural and
beautiful environment that we have.

Sincerely,

Hunter Mc Connell, Jr.

2912 Henrietta Ave.

La Brea, Ca 91214

Oregon property located at
150 1st St.

Falls City, Ore. 97344

Nov. 29, 1974

Q 2 Box 137

Dallas Ore 97338

U. S. Department of Agriculture
Dear Sirs:

In regards to this Seal
Creek Dam that is being
considered out close to
Falls City.

Considering that it is just
above our farm, we feel
there would be too much
noise, also we found out
that right at the side of
our place they are considering
a camping grounds. As my
husband and I are elderly
and I have heart trouble
we are against the dam,
not only that but there is
not enough water in Seal
Creek to merit a dam. We

voted this same day down
once, now what I regret
to know is just what
good does it do us farmers
to vote on a thing.

Yours Truly

Mr & Mrs Joe M. M. M.
Q. B. Box 137
Dallas Ore. 97338

Selma Parker.

Received
12/16/74

Rd. Box 161.
Dallas, Ore
97338.

U. S. Dep of Agriculture
Portland, Ore,

Dear Sir.

I am writing in regards to the
Teal Creek Dam. I am very much
against it. for many reasons.

first, theres not that much water
in that creek, too many people
will lose their homes. I have made
this place my home for 21 years,
and I would like to live here as
long as I need a place to live.

please take this into consideration.

Thank you,

Sincerely,

Mrs Selma Parker

RECORDED
12/15/74
VHC

Dallas Ore

Dec. 10, 1974

United States Dept.
of Agriculture
Soil Conservation Service:
1218 S.W. Washington St.
Portland Ore.

Dear sirs:

I have just read through 55 pages describing the proposed Teal creek project. As a landowner in the area, I have been against the project from its beginning, and after reading all this I am more concerned than ever.

I have worked at logging and construction for over 40 years and therefore feel qualified to comment on many of the statements made by the backers of this deal.

First of all the cost figures they submit are completely out of line. I have seen much smaller projects cost nearly twice this amount, and that was ~~for~~ before the inflated costs of today.

Also the benefits they project are unreal, the cost per acre for water is not mentioned in this booklet. but it has been brought out before.

The cost they published first of \$17.⁰⁰ per acre for water make it prohibitive to all but a few farmers who can raise row crops or mint or the like.

at a later report they stated it may

be even higher.

They predict a recreational park will bring in revenue.

This was brought up a years or so ago, and at that report it was brought out that every park in the state with the exception of one, was funded by tax money.

as for the chinook salmon, this needs no ~~caption~~ comment, just look at the facts.

a dam in the Black Rock area I think may be practical, at least it would not be taking farm land out of production at a time when food shortages are becoming a reality.

I know they will come back with the arguement that the extra water will make up for the loss of acreage but a dam in the Black Rock area would provide all the benefits of the Teal creek dam

There is a great deal more that could be said against this project I hope you will consider these things

yours truly John Qualley

Rte # 2 Box 170

Dallas, Ore

97338

The Richardson Company of Oregon

Received
12/11/74 WRC
Forest Products

Phone 787-3619

22 Forest View Lane, Falls City, Oregon 97344

December 9, 1974

James W. Mitchell,
State Conservationist
Soil Conservation Service
1218 S. W. Washington Street
Portland, Oregon 97205

Dear Sir:

Following are comments to be considered regarding the Draft Environmental Impact Statement for the Little Luckiamute Watershed, Oregon Project. Page and Paragraph References are for the DEIS, unless otherwise stated.

Reference is made to the project alleged irrigation of 4100 acres. The map in the Work Plan (Figure 5) indicates distribution lines, etc. for this acreage.

This is an improper presentation of acreage and causes all calculations to be based on a false premise. Thus the Cost-Benefit ratio and financial responsibility, as well as the feasibility of the Luckiamute Watershed Plan is in error. It is in gross error, for this reason, and for several others.

The 4100 acres represented to be irrigated is based on indication of interest when the original Water Control District consisted of 15,500 acres.

The Little Luckiamute Improvement District that replaced the original District consists of but 6500 total acres and 28 owners. These factors are not considered in the Impact Statement nor in the Amended Work Plan section.

The areas shown on the map in the Work Plan are no longer correct, as are not even in the new Improvement District boundaries, for the most part. What is shown on the map is what was the original Water Control District, and that was dissolved by a vote of the people in the District. Also, part of the 4100 acres signed as interested in irrigation already is being irrigated, so this not "new irrigation" and thus the Cost-Benefit ratio be changed.

The 28 members and 6500 acres of the Luckiamute Improvement District (a private, non-profit corporation) has the sole responsibility of the "maintenance of the structure" as indicated on page 14 of the Draft Environmental Impact Statement. All liabilities rest with this Corporation consisting of but 28 owners and 6500 acres. The liability passes with the deed of the property, and in one instance there was but 7 acres signed in, which later was sold and divided into 2 parcels of 3+ acres each. I question the financial ability of this particular acreage to stand much liability, nor the desire

to do so. In another instance there is two acres signed in, and would doubt how much of that might need irrigating. There's another of 151 acres, which is on the Little Luckiamute with prior water rights and the owner says he has all the water he needs, so the probability of that acreage being actually signed up for irrigation from this project would be doubtful, in my mind. There are other instances of members of the Corporation for which the same question should be examined in the light of actual acreage to irrigate and financial feasibility. I do not think this small Corporation is able nor capable of taking on the responsibilities as outlined on Pages 14, 15 & 16 of the DEIS.

The original water control district consisted of 15,500 acres and an ad valorem tax could be levied on all that acreage. But it must be kept in mind that this is no longer the case. The Improvement Company is a private, non-profit corporation, and total liability rests with the members of the Corporation. It is not a strong organization to carry a very heavy load. It must be considered also, that some of these same farmers, if signing irrigation contracts, would not only carry that load, which is a lien against the property for 50 years, but also the liabilities of the Corporation are a lien against the property.

A question arises, with 2 liens against the property (and crops), where does this leave the farmer who is a member of the Corporation, an irrigator, and wishes to borrow from his bank or cannery to plant his crop? Much of the farm land is not clear, but also carries a mortgage, I might add. I think most any banker can tell you the answer to that one, especially in the current climate of the bank being able to pick his loan customers and be quite choosy about it. This is an Impact not mentioned in the DEIS.

If the figure of 4100 acres said to be irrigated, is used, then the relation of the 340 acres said to be that taken up permanently by the reservoir is 8+% to area said to be irrigated. But there is not 4100 acres to be irrigated, that is a false figure.

Thus the actual percentage of land taken up for the reservoir and permanently taken out of production may actually be 20%, or very probably a higher figure, in relationship to the acreage that will actually be irrigated. So it is highly possible that 20-25% of acreage - in relationship to acreage irrigated - would be taken out of permanent production. This land within the proposed reservoir area is now used for crop land, Christmas Tree production (ultimately to allow to develop into forest land) and the operation necessary for a dairy herd, as well as homesites going with these activities.

If the 600 acres for reservoir, dam & right of way used, the relationship of acreage out of production to area irrigated could jump to 40%, I think.

Flood Control - To qualify for multi-purpose use under Public Law #566, Flood Control was slipped into this project as a "benefit". Yet is it? It is admitted that the project would, at best, provide a control proection of but 2%, and it is further admitted by the SCS that there is no way to predict in advance so the reservoir could be drawn down. To say there would be "some measure of control" every other year, is an extremely low level.

Thus, flood control cannot be used to justify this project.

Irrigation - This too is highly suspect as to benefit upon investigation as a point to justify the project. There is no possible way that the local farmers can pay the total annual costs. Details will be gone into further. But under the Oregon State Statute #554 which the Little Luckiamute Improvement District was formed, the 28 owners signing into the Corporation and their 6500 acres are liable for all the debts of the Improvement Co. This Improvement Company is the sole source of maintedance of the costs of this entire structure.

As pointed out previously, the 4100 acres to be irrigated per the Work Plan and Impact Statement is an incorrect figure. Thus there may be but 2000 acres actually subject to irrigation and thus cost could run to \$80/acre/year using the work plan addendum benefit figure to the 1971 costs. Using a corrected current benefit figure (considering escalation) it could cost about \$147/acre/year. Either is not economical. Of course the plan may be to somehow shift this burden to the Polk County taxpayer. But if so that should be so stated and the Impact evaluated. At any rate, irrigation is not a favorable aspect. Obviously, this small Improvment District cannot handle this financially.

Recreation - This also is not a viable purpose of this project, and stuck in to qualify it for Public Law #566 Funds and to make it a multi-purpose project. Polk County has sole responsibility for the maintenance of the Recreation area. In my letter of July 5, 1974, this aspect is gone into and please refer to that. But in essence, "heaven help the people who have to live here if we really do get 6,000 people per day as the planners say; and "heaven help the Polk County Taxpayers" if we don't get that many. This is not financially feasible for the County. We can't even keep the chuck holes filled in the roads, let alone take on a project like this. So the Recreation value can be scratched.

Fish Hatchery - The benefit figures as indicated on page 95 of the 1971 Work Plan are not correct.

No consideration has been given in costs to accomodate the Department of Environmental Quality standards for all fish hatcheries to have hatchery effluent water channeled thru a settling pond or handled in some other manner. Water treatment facilities must be installed to accomodate these standards for removal of the waste from hatchery ponds entering a stream channel. This will be a substantial added

expenditure over and beyond normal operating and capital expenses in hatchery operation.

Yet no mention is made of this in Cost-Benefit ratio nor in the figures used to tout the supposed "fish enhancement". Possibly because it isn't so "enchanced".

No mention is made to this in the environmental impact statement, which certainly should be made as to the effluent entering the stream and the measures needed to quality under DEQ.

I wonder how much the Polk County Commissioners would need fund in the budget for diapering the fish in event this fool project ever came into being?

So with Flood Control, Irrigation, Recreation, as well as Fish Enhancement not really viable aspects, we are left with "speculation", which is really what the project is all about. The rest of it is put up for window dressing. Now that we know what the real intent is and what the window dressing really consists of, the complete project should be dropped and abandoned now. This should have been done in the first place instead of aided and abetted by the SCS. If governmental agencies weren't so anxious to push a project and spend the taxpayers' money, it would be like a breath of fresh air.

The Cost-Benefit Ratio is further out of joint by both inaccurate and confusing statements. The basis for which analysis is made jumps around with current values in Part I of the addendum to the work plan and then Part II and Part III use the 1971 values. So unless the reader is an engineer or has training in ferreting out such governmental analysis procedures, it is too complicated to tell what the benefit-cost will be nor how much it will really cost the taxpayer.

The conclusion is that something is out of joint, and it is more likely the person making up these calculations had been in a "joint" for lunbh hour or had been smoking a "joint". The upshot is the taxpayer is about to "be had" again. A valid conclusion has been attempted from an incomplete and inaccurate basis. Actually, the benefit-cost ratio could be as low as 7:1. instead of the figures shown in the Amended Work Plan and DEIS.

This just seems another case of a governmental agency aggressively foisting incomplete and inconclusive information into permanent conclusions that are not justified by the final facts and information.

The Planners better go back and do some refiguring as to the real total environmental impact and benefit-cost ratio based on the correct premises.

Page 5, Para. 2 - It is indicated the objectives of Public Law #566 have been met. I disagree with this. Under Public Law #566 there must be "... support of a large majority of the landowners and citizens of the community." This is not the case. As one case in point, reference is made to the petition sent the SCS Portland office in July 1974 in opposition to this project (copy enclosed). Also the original WCD was dissolved by a vote of the people in the District, and this was to get rid of the project insofar as the voters were concerned. As the comment is made over and over, "We voted to get rid of that dam project once, what is it doing back again?" There were 274 votes cast in that election.

Page 5, Para. 5 - Unless it is going to be by "Bureaucratic Edict", it is quite difficult to understand how fire hazard is to be minimized with the high intensity recreational use anticipated and advocated by the Sponsors of this project. I refer to Page 5, Para. 7, More detailed discussion will be made on this point in later pages. Recreational areas have a high percentage of man-caused fires and the rate is increasing.

Page 9, Para. 2 - Reference is made to relocation of the Falls City and Monmouth waterlines, please refer to my letter of July 26, 1974. I do not believe adequate engineering detail has been given to this, as the total Falls City line would be in need of realignment to the west to a much higher elevation, and probably the entire length from the reservoir north due to the present pipeline being covered by water by the proposed project in the area near the north-west end of the reservoir. The terrain south and west is cut by deep canyons, and would, I think involve location higher than the proposed Teal Creek road relocation, and thus further damage to the timberland to the west.

Part of the Teal Creek road relocation, and in fact most of it, is in the timber on the west end of the proposed reservoir, referred to in the plans as Kilowan Parkway. This is public access through the timberland and into the proposed Recreation area with "high intensity developments" according to the DEIS, so thus entice people into the area. There is no protection provided on the west side of the proposed relocated road so access restricted to the privately owned timbered area from the road. This would endanger the forest land further to fire hazard and leave it unprotected. I object to this, as owner of that property. This is an adverse impact to be considered.

There is no mention of the Christmas Tree Plantation of approximately 90,000 trees (and more planned) which is to have trees left at certain spacing so the end result will be a timber stand. This property is owned by Phillip Jones. There is no mention of our trees planted for re-growth in the area of "Kilowan Parkway".

There is no provision for protection of my home which adjoins the North edge of the recreation area, called "Falls City Meadows". This is near the proposed beach swimming and dock area. Such a site would cause a large congregation of people in this proposed "high intensity" development, and without fencing and other security measures, park users (including the skinny dippers) would tres-

pass on my homesite and property, within the city limits. There is no provision for an outlet for my homesite. Our business customers would be barred from access. The proposed park area blocks off the street from me and any security fencing would further block me off. The probability of vandalism to private property is left unprotected as well and uninhibited access to this property by all the undesirables that frequent parks. It actually would not be safe for me to live in this house if such a "high intensity" recreation area were established. The City Limits line (also the North Recreation line) is in the yard and within a few hundred feet of my front door. I object to this. The Impact is not being considered. It should be.

Page 12 - Para. 1 - Reference is made that "All septic tank effluent will be pumped to drain fields outside of the reservoir drainage".

A question is: Pumped to where? There are six rest rooms shown, and with 6,000 people per day estimated, that would be 1,000 people per rest room. Peak visitor days are expected to be 10,000 according to the Planners. If any thing like that really happened, there'd be somebody behind every bush in more ways than one.

The sewage disposal problem would be like that of a city the size of Dallas or Monmouth, Oregon - accomodated by six rest rooms.

The "take line" around the reservoir is shown as 100', but the septic tank drain lines would need more than this, so there's something amiss in the planning here. Also, the entire rim around the three sides of the proposed lake all slope toward the reservoir area, on the north, south and west. The east end would be the reservoir area. The west end especially is a long distance to the rim of the mountains. The north edge of the reservoir borders the Falls City city limits. Possibly a lagoon is planned and the effluent pumped into barges to cross the reservoir and be shipped to Japan or someplace? Or maybe into the manure pile by my neighbor's cow barn?

There is a rest room for Falls City Meadows shown near my home. Is the effluent from this to be pumped into the city limits? Is it to a Falls City sewer system the City is to be suddenly surprised to learn is needed? Or is the County taxpayers to be surprised with a County-wide sewer system to pay for? These questions need positive answers, with costs and Impact detailed.

There is no provision in the plans for a network of any sewage pumping system or costs allocated, or where it would be. The location of a lagoon and the necessary lines are Impacts to be considered.

Reference on Page 12 is made that allowance is made "... for future expansion which can be made efficiently". Future expansion in what direction? Further into the timberland? If so, this is further encroachment on the timberland and endangering it. This should be further detailed and the environmental impact spelled out in detail

as to what design is in mind. If plans are in the works that would eliminate a "working forest", that is an environmental impact and end result that should be considered. If it is in the direction of the Camp Fire Girls camp and that would be further endangered or eliminated, then it should be so stated.

Page 33, Para. 2 - Just because there isn't one, doesn't mean we are dying to have one, is my idea to the statement that there's not recreation development in the Little Luckiamute Basin. I think the need for one is in the eye of the professional recreation developer. This is a working forest area and not for highly intensified recreation as advocated by this Impact Statement and Work Plan being reviewed.

This brings us to the discussion of Fire Hazard. This liability is brushed past and even brazenly listed as a benefit (page 39), in considering the proposed project by the impact statement. What a pottage of foolishness, to say the least. Somebody certainly had to make a long reach for that one. If the landowners objections mentioned on page 51, Item 3 had really been given attention, such impractical statements as appear in the Impact Statement would not have been made. Instead, the attitude has been to squash the opposition and ignore it, insofar as governmental agencies and others promoting this impractical project. If the amended work plan and the impact statement are to be considered, then certainly the SCS had not answered the questions of the landowners nor have they assured us our concerns will be considered. Far from it.

Page 6, Para. 6 - "Accelerated fire protection will be implemented where increased use is expected". In detail, what is meant by "accelerated fire protection"? A double barrel carburetor on the fire truck to speed it 12 to 15 miles out of Dallas? A large body of water is small protection to the rugged terrain to the west.

Reference is made to land treatment measures to be installed, on forest lands. Are these voluntary or mandatory?

Page 15, Item 5, Para. 3 - "The operation of the reservoir will be coordinated with the Oregon State Department of Forestry to meet fire protection needs of the area." Details are strangely omitted. How many trucks, and stationed where? How many men assigned and stationed where? How many men for fire patrol, and for what period of time, when and where? How are recreationists to be kept from trespassing on private property in the timbered area, especially along the relocated Teal Creek Road where fires easily be started? How keep fire control in the hiking area on the south side of the reservoir? This is also a timbered area and just as much danger as elsewhere, yet hikers are turned loose to wander. Estimates are for 6,000 people per day or something 1,000 to 1800 at any given time, and 10,000 estimated on peak days. With that concentration of people, there will be fires. If nothing else, there will be at least one "nut" with one match available at one given place at most any time.

It is stated that few fires have occurred in the past and it is suggested in the Impact Statement that with this project, fire danger would be even further decreased. These trees have never had to contend with 6,000 people per day before. With all due respect to the Forestry Department, there are situations in which a fire cannot be stopped until weather conditions change. It would just be a matter of time until the timber in my ownership would be destroyed, and with the "right conditions" destroyed from here to the Coast. The statement on page 39 under "Favorable Environmental Impacts" - to "Decrease Potential fire hazard", is in error, and it would be laughable if it were not so serious.

Please refer to copy of my letter of July 5, 1974 for more detailed discussion of the fire hazards involved.

While this property is not in the class of Willamette Industries, Inc., or Boise-Cascade Corp. timber holdings mentioned in the Impact statement, the property in my ownership does border the proposed reservoir on my east edge, and it would be the first to bear the brunt of fire damage. This tree farm is also my livelihood. Therefore I think the holdings in my ownership should be considered, rather than ignored as was done in the Draft Impact Statement.

This tree farm is recognized as managed forest land. My father was selected Oregon Tree Farmer of the Year in 1962. His efforts in timber management date many years prior to that date. Christmas tree culture was used in 1937, for example. He aided in writing several pamphlets put out by the Oregon State University extension service dealing with forest products. He wrote "The Tree Farmers Handbook". This is used in junior and community colleges as well as forestry vo-ag classes in high schools as a text, as well as by tree farmers.

The Impact of subjecting all this to devastation by fire so a bureaucratic play ground can be built should be considered. This area should be kept and preserved as a working forest.

There is no mention nor consideration of the area from which top soil is sold and which would be under water from this proposed project.

There is no mention of our shale pit from which rock is sold and would be damaged by this project.

There's no mention as to the dislocation of our logging road system, which has been designed to funnel into the Teal Creek Road. All this would be dislocated and is something to be considered in an Environmental Impact. These points are not considered, nor covered.

A couple of small points, Page 10, para. 3, "Diversion Canal" - What is meant, recreational use might be utilized on the landscaped area where the diversion canal is covered? This for a length of 700'. How wide is this right-of-way? It would seem to me that a rousing game of tiddly-winks might be about the best that could be drummed up

even by the Regional Park Agency, for this landscaped strip. Sounds more like a crumb thrown to the City Council for tearing up the West end of Falls City, and they weren't considered bright enough to notice what it really was. See my letter of July 26, 1974 for further discussion regarding the impact on Falls City.

Page 41, last item - Reference is made to the fact the reservoir will be drawn down to create a "temporary" mud flat area each year. A temporary mud flat of about 4 or 5 months duration, especially for those located inside the city limits on north edge of reservoir (mud flat) area at the north west end. Besides a big stinking mud flat, in their front yard, it would also be a breeding ground for mosquitoes. I don't see any mention of mosquito control in this impact statement or any recognition of the existence of mosquitoes. Considering the use of insecticides that might need to be used for control, should think that would belong in an Environmental Impact Statement.

Alternatives mentioned and declined in the Statement, page 43 - Irrigation by Pumping from the Willamette River. The figures shown in this paragraph need revision. There's no longer 4100 acres to be irrigated as pointed on on the first page of this letter. Most wanting irrigation, and those in the new Luckiamute Improvement District, are located in the lower part of the Little Luckiamute area, so there not be such a long line needed and there would be a smaller acreage than 4100 acres. This factor needs re-evaluated in the above light.

Channel Enlargement, page 43 - With a dam or series of holding dams on the Big Luckiamute as proposed by the Corps of Engineers, the objection stated regarding "Backwater from the Luckiamute River would limit the benefits in the lower reaches of the Little Luckiamute River flood plain", would change the situation. Page 5, Para. 6 refers to the flood prevention measures that are to achieve the objectives of providing the maximum justifiable level of flood protection along the Little Luckiamute River flood plain not affected by the backwater from the Luckiamute. The flood control is but 2% at best. The main flooding problem, as I understand is on the lower Little Luckiamute, and the main cause of this is backwater from the Big Luckiamute. So control dams on the Big Luckiamute would control the backwater into the Little Luckiamute. Some channel clearance would take care of the problem on the upper Little Luckiamute. A dam on Teal Creek is not needed to attain this.

Page 45 - Alternate Sites, Para. 2 - The Grant Creek site and pumping from the Willamette are the two better alternatives and choices. Either would be better than the Teal Creek dam project. Either would furnish irrigation, which is really all that looks necessary anyhow. And that to but a few. Actually the farmers say they want channel clearance and flood control more than irrigation.

Reference is made to the top soil we sell, on page 8 of this letter, and wish to say further that this is used to provide good top soil for lawns and also for nurseries and green houses for potting soil and starting beds. This soil is an ancient peat bog, older than Lake Labish in the Salem area, and is excellent for top soil. We were advised that it has the highest organic content of any soil tested in Polk County.

The planted trees have difficulty starting in this soil, and we have found that by taking off the top soil, the trees planted for regrowth will grow. The natural trees did not start in the area, because of the type of soil. The top soil is used for landscaping and aesthetic enhancement as well as making it possible to plant and grow trees in the removal area.

The impact of the loss of the top soil availability and the loss of the area to tree growth should be considered. It has not been.

Further, regarding the shale pit referred to on page 8 of this letter. This is a hard shale and sold for use on driveways, lanes and cattle lanes. It is good for the latter as does not cut the feet of stock as gravel does, nor does it become muddy. The water drains off, yet the lane is packed hard. It has the ability to pack down and become solid almost like concrete, yet water does not stand on it. It makes a very fine driveway or lane and we use it for our logging roads. Use of this shale frees high grade rock for other uses and is at a lower cost. Rock is difficult to obtain in the general area.

This shale site, which extends over quite an area, would be displaced by this proposed project. The impact of the loss of the shale for use in local area should be considered, as well as the loss of income from it and the top soil to myself. There would also be a loss of availability of the product and income to the firm with whom we have a royalty agreement.

I question the need for additional recreational facilities. The County has to bear the cost of operation of this proposed recreation site. In Polk County many of us feel more attention should be given the parks we have, before another one is shoved down our throats to pay for, and which would be much more expensive to maintain than any of the present ones.

The people dislocated by this proposed project are brushed over very lightly. Yet the benefits of the entire project are so suspect and not at all what purported to be in the work plan and DEIS, that I think the impact on the people whose lives would be disrupted merit more comment and consideration. I realize that the attitude at the SCS is that they are there to build dams and push projects, and the people be damned. If you lose your livelihood or your home or old folks & retired and forced to move, "that's tough, Charlie", a dam has to be built whether of benefit or whether needed or not. I don't think that way. The impact must be considered.

James W. Mitchell, State Conservationist
Page 11 - December 9, 1974

Mr. and Mrs. Jim Reece want to build up their dairy to qualify for a Grade A dairy, and this means a new barn and other buildings. They also wish to build a new home. Yet their property is right at the dam site, and they would be eliminated by this project.

I have mentioned Mr. and Mrs. Phillip Jones and their Christmas Tree farm. Their home would also be taken by this proposed project. Mr. and Mrs. Wm. Hurst would be at the south end of the dam, and he is recently retired and planned to build a new home. He doesn't know what to do. He wants the new house but doesn't want to get it built and then have the government wipe him out. Mr. and Mrs. Glenn Gage, Mr. Clint Ruiter, Mrs. Chas. Ryan, are all just below the dam site and would not care to live in such a spot. We have many small earthquakes in this area. These people do not consider it safe to live in such a location. All are retired people whose homes are mentioned being below the dam site. Neither do they care to have hordes of people decending upon their quiet community. Mr. and Mrs. John Qualey have just built a new home and could not live there if this project came into being. There are others who moved to this area to get away from population centers and do not want 3,000 cars going by their doorways.

And of course, I would be disrupted. My livelihood, my home, and the tree farm. My way of life disrupted because some bureaucrat decided a play ground was needed. You say that sounds bitter. Yes, it is, because I am. I do not think a government agency has the right to interfere with the right of the pursuit of happiness. Especially when the benefit of this proposed project is so nil as this one is.

I think a contingency impact consideration should be given the farmers who are supposedly to be "helped" by this proposed project. For reasons outlined previously, this project is not feasible financially and is too great a burden on the farmers in the Little Luckiamute Improvement District. So a contingency "adverse impact" should be considered as to what will happen when these farmers lose their farms if this impractical project ever got started. Who would "benefit" and fall heir to 6500 acres in the Little Luckiamute Improvement District?

If it is planned to shift the burden to the Polk County Tax Payers, in some adroit undisclosed move, then that contingency impact should also be listed as an adverse impact and be considered.

This whole project is simply too weak-kneed and weak-minded for further consideration.

Very truly yours,

Kaye Richardson
Kaye Richardson

P.O. Box 543

Received
12/16/74
NHC

Balboa, Calif. 92661

Dec. 3, 1974

U.S. Dept of Agriculture
Soil Conservation Service

1218 S.W. Wash. St.

Portland, Ore. 97205

Dear Mr. Mitchell,

Regarding my desire to
protest any proposed changes
in the environment and
Natural Wilderness and Water
System of Falls City, Oregon
which is at present City owned.

I am a property owner
on the little Luckiamute River
and purchased & invested in
this specific area for the

2: Purpose of enjoying some
natural, unspoiled beauty
& peaceful environment

I have invested considerable
hard earned money in an
excellent Septic Tank system
and see absolutely no need
of a Sewer System being
installed in Falls City. I
more like this could no doubt
bankrupt Falls City at this
time.

A dam and other charges
would only create a need for
many added services plus
a demand for higher taxes
on the local taxpayers (property
owners)
These charges should also

3/ Cause a great influx of recreational transients and noise, traffic problems with the narrow 2 lane road leading into Fall City.

If water were transmitted from the Little Luckiamute river to a Teal Creek dam in 1970, those figures would certainly be different in cost now.

Concerning Water from the Luckiamute on a reasonable rate from heavy rains to feed into dam for irrigation of row crops to farmers would be feasible and the way it shapes up the farmers who now enjoy free water rights would be paying almost \$18.00 per acre water use cost.

4. I am deeply concerned
with a drawdown on the
Luckiwinette.

I feel that there is plenty
of water for sportmen and
speculators to enjoy in the
Willamette river and other
sources available in near
locations.

I enjoy the reasonable
peaceful community of Falls City.
I too, enjoy sports, boating
& recreation but I do not want
one quiet, unmaligned natural
environmental area to be
blasted with the same
impact which a person can
find anywhere within a 20-30
minute drive from Falls City.

5. I think as a Citizen
and property owner in Falls
City, Oregon. that myself
as well as others should be
able to enjoy a spot
of their choosing without
being coerced into the
change which perhaps some
Speculators (land) and Sportsmen
may want to put into action.

We as property owners have
a true interest in the Falls City
area and are not there for the
purpose of speculation, but to
enjoy our investment!

Sincerely yours
Crystal Rogers

Received 12/12/77
abc

Route 2, Box 40-B,
Monmouth, Oregon 97361.
December 11, 1974

United States Dept. of Agriculture,
Soil Conservation Service,
1218 S.W. Washington Street,
Portland, Oregon 97205

Gentlemen: Re: Draft Environmental Statement, Little Luckiamute River
 Watershed Work Plan.

This statement could be much improved to guard the inexperienced reader (the eventual payer of the cost) against erroneous impressions as to the effect of the project on the economic environment as well as other environmental factors. Refer to my statement (on your tape) at the July 3, 1974 meeting at Dallas, Oregon for some of the items which the statement should, but fails to mention and also as follows.

1. One difficulty is that the project would generate both cash and social costs and benefits and the report commingles them and attempts to express them all in dollars. This misleads. This could be cured by dividing cash items and social items into separate balance sheet arrangement.
2. The statement is not clear as to net benefits to farming. It appears that the economic and social effect of present irrigation and approximately 800 acres of cropland, grassland, forest and pipeline area should be deducted before stating the amount of benefit.
3. Similarly for the benefit of the fishery. The work plan uses gross sale price of fish landed at dockside (1970 prices) and fails to allow for the cost of boats, labor and materials to secure this benefit.
4. The several miles of existing public roads leading to the recreation area are narrow, curved and undulating with short sight distances, gravel surfaced. People living along them will find it unsafe to get out of their own driveways especially with farm machinery if the recreation use is anywhere near the volume that the environmental statement predicts. I find no allowance for corrective measures or the social cost of resulting accidents.
5. There is no mention of vandalism similar to that experienced at other parks, theft and damage to gardens, crops and forest and necessity for increased police and fire protection.
6. The immediately adjacent village of Falls City would be unable to cope with the predicted flood of recreationalists as to parking, stores and other necessary services. School facilities would prove inadequate to accommodate the children of construction workers during the 6 or 7 year predicted construction period.
7. The project may attract new permanent residents with children and consequent need for schools. Since new homes do not generate sufficient taxes to absorb the increase in school costs it will burden the high proportion of low income and retired people with with costs for schools in which they have no children. Persons with vacant land may be beneficiaries through higher sale prices.
8. The statements page 33 fail to state that irrigation dependability is 8 years out of 10. Economic stability is claimed although all of the activity generated is seasonal. This is the reverse of stability as we already have too

high a proportion of seasonal work.

9. Page 39 claims decrease in potential fire-hazard. Absurd. People are the chief cause of fires, 420,000 predicted visitor days at edge of unbroken miles of Douglas Fir forests.
10. As to erosion, page 30. The project economic report is based partly on conversion of grass and brushland to row crop use. This exposes more unprotected surface to the heavy rains of winter and to the irrigation in summer. More erosion, not less.
11. Pictures on pages 28 and 29 would mislead one to believe these conditions were typical and persistent as no true explanation is given. To my knowledge there is only one dwelling so affected and 2 road crossings. The flood control capability of the project would not eliminate the condition shown. The condition shown does not occur every winter as the caption states and when it does come it lasts only a few hours. The project would not really be "CONTROL", it should be characterized only as alleviation.
12. The state Willamette Greenway project has recently purchased the 224 acre Pilcher farm and 250 other acres at the junction of the Luckiamute, Willamette and Santiam rivers, 3 1/2 miles of river frontage. The use of this alternate for recreation would alleviate the concern of the Falls City area people about the impact of the 420,000 visitor days per year projected for the Teal Creek site.
13. There is the possibility that a project as follows would overcome objections, result in greater benefits and cost less: Construct water storage on main Luckiamute near the south section line of Sec. 13, T9S, R7W to augment low flow; pump part up the Little Luckiamute, leave balance for main Luckiamute and fish. This would nearly triple irrigation possibilities compared to the Little Luckiamute plan. Combine recreation with Willamette Greenway, item 12 above. This would avoid appropriation of Teal Creek farm land (item 2 above) for reservoir, displacement of people and cost of diversion canal.
14. Economic environment. (a) The Teal Creek project would absorb so much of the county financial resources for 50 years that the larger possibilities of above paragraph 13 project would be incapable of realization even if it costs less than the Teal Creek project. (b) I estimate that the Teal Creek proposal would require over \$500,000 per year of new county funds for interest and amortization. This county raised money would undoubtedly accrue to non-resident bondholders for a substantial net drain on the county populace.
15. Improvement of Environmental Statement. The statement should be rewritten by persons who have foresight enough to visualize all the effects and alternatives for the long range future, represent the effects fairly and completely, show amounts of cash benefits and full cash costs separate from social benefits and costs and explain it fully so that one doesn't have to be an engineer, etc. to fathom the full consequences.

Very truly yours,

Wm. A. Schuerman

Wm. A. Schuerman (Consulting Engineer, retired.)

DECEMBER 13, 1974
FALLS CITY, OREGON

JAMES MITCHELL,
SOIL CONSERVATION SERVICE,
1218 S.W. WASHINGTON ST.,
PORTLAND, OREGON 97205

REC'D
12/14/74
JGC

DEAR MR. MITCHELL:

THIS LETTER IS IN RESPONSE TO THE ENVIRONMENTAL IMPACT STATEMENT ON THE TEAL CREEK PROJECT NEAR FALLS CITY, OREGON. I BELIEVE THAT THIS LETTER NEEDS TO BE RECEIVED IN YOUR OFFICE ON OR BEFORE DECEMBER 17, 1974.

I AM WRITING IN OPPOSITION TO THE PROJECT BECAUSE OF KNOWLEDGE GAINED THROUGH RESEARCH AND EDUCATION ON SOCIO-CULTURAL CHANGES WHICH HAVE OCCURRED IN WATER RESOURCE DEVELOPMENT PROJECTS IN OTHER PARTS OF OREGON AND AROUND THE WORLD.

FOR EXAMPLE, I DON'T BELIEVE THAT YOU PEOPLE AT THE SCS OFFICE IN PORTLAND HAVE EVER READ A BOOK FROM ANN ARBOR PRESS BY GILBERT F. WHITE (1969) ENTITLED, "STRATEGIES OF AMERICAN WATER MANAGEMENT". ALSO, CLASSES WERE GIVEN AT OREGON STATE UNIVERSITY FROM APRIL 1ST THROUGH JUNE 3RD, A COUPLE OF YEARS AGO ON SOCIO-CULTURAL SYSTEMS IN WATER RESOURCE DEVELOPMENT THAT WERE VERY ENLIGHTENING ON THIS SUBJECT. BY THE WAY, SCS PEOPLE FROM ALBANY WERE AT THE CLASSES. DID YOU EVER ASK THESE SCS GUYS WHAT THEY FOUND OUT? DID YOU EVER LOOK INTO SUBJECTS LIKE (1) "ANTHROPOLOGY'S ROLE IN WATER RESOURCE DEVELOPMENT", (2) "CULTURAL FACTORS IN WATER RESOURCE DEVELOPMENT", (3) "THE CULTURAL CONTENT OF ECONOMIC DEVELOPMENT", (4) "SOCIO-CULTURAL DECISION MAKING AND ADVOCACY IN WATER RESOURCE DEVELOPMENT", (5) "PUBLIC INHERITANCE VALUES AND INVOLVEMENT IN WATER RESOURCE DEVELOPMENT." ALL OF THESE AND MORE WERE GIVEN AT SEMINARS AND CLASS STUDY AND WORKSHOPS AT OREGON STATE UNIVERSITY. HOW COME YOU ARE NOT APPLYING THESE IMPORTANT PRINCIPLES AS REGARDS THE TEAL CREEK PROJECT NEAR FALLS CITY. THE PRINCIPLES

ARE VERY IMPORTANT TO THE TOWN OF FALLS CITY AND MUST BE APPLIED. I KNOW YOU HAVE NOT DONE YOUR HOMEWORK ON THIS SCORE, FOR EXAMPLE, HAVE YOU EVER READ THE RESEARCH WORK OF COURTLAND L. SMITH, THOMAS C. HOGG, AND MICHAEL J. REAGAN (PROFESSORS AT OREGON STATE UNIVERSITY) ON "ECONOMIC DEVELOPMENT: PANACEA OR PERPLEXITY FOR RURAL AREAS?" LET ME GIVE YOU ONE ABSTRACT FROM THAT STUDY. ⇒ "ECONOMIC DEVELOPMENT IS REGARDED AS A BENEFICIAL PROCESS AND SPURS PEOPLE TO ACCEPT PROGRAMS WHICH MAY PROVIDE THIS BENEFIT. A WATER RESOURCE DEVELOPMENT PROJECT IN THE VICINITY OF SWEET HOME, OREGON, WAS EXPECTED BY LOCAL RESIDENTS TO SPUR POPULATION AND ECONOMIC GROWTH. THE WATER RESOURCE DEVELOPMENT PROJECT STIMULATED THE COMMUNITY TO OVER EXTEND ITS SCHOOL AND MUNICIPAL SERVICES. COUPLED WITH INFLATION IN THE NATIONAL ECONOMY, COMMUNITY ATTITUDES ABOUT GROWTH, COMMUNITY NONINVOLVEMENT, AND REPLACEMENT OF MAJOR DECISION MAKERS BY URBAN AND SUBURBAN ORIENTED PEOPLE, THE RESULT WAS ONLY SHORT TERM EXPANSION AND THEN DECLINE."

THERE IS A LOT MORE IN THIS STUDY, AND OTHERS, BY SCIENTISTS FROM AROUND THE WORLD THAT TELL A LOT MORE THAN JUST THE ABOVE ABOUT SOCIO-CULTURAL-ECONOMIC-MISHAPS AS REGARDS WATER RESOURCE PROJECTS, MOSTLY BECAUSE THEY ARE BUILT IN PROBLEMS. HAVE YOU DONE A STUDY OF THIS KIND OF IMPACT ON FALLS CITY? NO!! WHEN ARE YOU GOING TO DO IT? THE DALLAS SCS PEOPLE JUST SAY "YOU CAN'T PREDICT". THEY ARE LIKE THE PROVERBIAL OSTRICH WITH HIS HEAD IN THE SAND!! ARE YOU THE SAME WAY? I AM A PROFESSIONAL BIOLOGIST. WHERE ARE YOUR BIOLOGISTS? CAN'T THEY GIVE YOU ANY ADVICE? OR IS THE SCS AND ITS PEOPLE MORE INTERESTED IN BUREA-CRATIC EMPIRE BUILDING THAN IN GETTING ADVICE.

THE BIBLE SAYS, "BY THEIR FRUITS YOU SHALL KNOW THEM". IF YOU ARE NOT INTERESTED IN BUREAUCRATIC EMPIRE BUILDING, THEN HOW COME THE SCS IS SO UNWILLING AND SLOW TO ACCEPT THE BIOLOGICAL FACTS SURROUNDING CHANNELIZATION AS WELL AS SOCIO-CULTURAL WATER RESOURCE RELATED PROBLEMS. UNDER PUBLIC LAW 566, THE WATERSHED AND FLOOD PREVENTION ACT PASSED IN 1954, THE SCS ASSISTS IN PLANNING THESE CHANNELIZATION PROJECTS AND ADMINISTERS THE FEDERAL FUNDS NEEDED TO CARRY THEM OUT. UNDER THE GUISE OF FLOOD CONTROL FEDERAL TAX-PAYER FUNDS ARE BEING USED TO SUBSIDIZE THE DESTRUCTION OF STREAMS AND SWAMPS DESPITE THE INCREASING VOLUME OF SCIENTIFIC INFORMATION ABOUT THE ECOLOGICAL DAMAGE CAUSED BY CHANNELIZATION. I WONDER WHAT'S GOING TO HAPPEN TO TEAL CREEK AND THE LITTLE LUCKIAMUTE RIVER ??? ALSO, WHAT ABOUT THE PRIME AGRICULTURAL LAND BEING INUNDATED BY THE RESERVOIR? ONE OF THE MOST IMPORTANT CONCERNS OF THIS NATION TODAY IS THE CONSERVATION OF PRIME AGRICULTURAL AND FOREST LAND. GREGON'S LAND CONSERVATION AND DEVELOPMENT COMMISSION ADDRESSES ITSELF TO THIS CONCERN. I DON'T THINK RECREATION IS AS IMPORTANT AS FOOD AND TIMBER IN THIS DAY AND AGE. ESPECIALLY IF THE RECREATIONISTS HAPPEN TO BURN DOWN THE WOODS! HAVE YOU CHECKED THE FOREST FIRE STATISTICS IN SEVERAL LARGE RECREATIONAL CENTERS FROM AROUND THE NATION THAT DON'T HAVE SUITABLE FOREST FIRE FIGHTING CAPACITY?

I THINK THAT BY NOW YOU CAN SEE THAT MY OBJECTIONS TO THE TEAL CREEK PROJECT ARE QUITE CLEAR. THEY ARE PROFESSIONAL OBJECTIONS. IT'S TOO BAD YOUR BIOLOGISTS CAN'T GIVE YOU THE SAME ADVICE.

LARRY R. SCOFIELD,
FALLS CITY, OREGON

Received

12/18/74

107C

Dec. 14, 1974

Dear Sirs:

I am against the Tent Creek
dam project

Sincerely

Pauline Scott

P. O. Box 21
Falls City, Ore.
Nov. 20, 1974

Soil Conservation Service
1218 S. W. Washington St.
Portland, Oregon.

Dear Sirs:

You have requested comment on the environmental impact of the Teal Creek Dam project. Since I live on the river in Falls City, and have lived in Falls City on and off for about 45 years; I must say I am deeply concerned over this project.

Falls City has nothing to gain, and everything to lose! There will be some land taken off the tax rolls; the assessed value of our property will go up; followed by an elevation in our taxes. Also we are urged by the commissioners to vote a special tax levy to help finance the project. Which was estimated to cost \$12 million at the onset, but with inflation has now doubled.

The building of the dam would surely bring in a temporary influx of people who would demand more services from Falls City. Then when they move on, Falls City would be stuck for paying for the extra services no longer needed. REMEMBER SWEET HOME?

Falls City has always had an abundance of excellent water, the source of which belongs to Falls City. The dam would cover Falls City transmission lines; this would necessitate relocation of the lines. If the government "generously" moves the lines for us, they will also control our water supply. This would force us into meters and and cause us to buy back our own municipally owned supply

Since there are plans for promoting building around the dam site, it follows there will be pressure brought to force Falls City to put in a sewer service. This would bankrupt our little City. Very few people living here can afford the cost of lateral lines to their property, hook ups, and taking the lines to the back of their property. All of these costs would have to be born by the property owners.

One of the chief promoters of these two dams recently bought property bordering the proposed diversion canal. So it seems the few men who are trying to force these dams on us would also force us into providing sewer service.

Now we come to the question of irrigation for the farmers. The farmers who put in row crops along the river, have done so to take advantage of the productive soil & silt; also take the water from the Luckiamute river for their irrigation, which now is free. Why should they trade this setup for one which they would have to pay \$17.50 and up for one acre to irrigate? If the dam promoters had asked for a reasonable sized dam for irrigation only, they would not have encountered quite so much opposition.

The flooding is minimal, so that leaves just two reasons for the dam, RECREATION, and land speculation.

There is no way, that we will stand still for a diversion dam on the Little Luckiamute River above the falls. Why should we furnish the ^water to fill the Teal Creek pond? If we should experience a dry summer, we know full well who would take the priorities of the water in the river.

Oh yes we are constantly reassured that there is a legal quota of minimal flow level over the falls at all times. But we found in Sept. of 1973 when the water dropped below the minimal flow and the water resources Board ordered a halt to irrigation from the river, these same few men, armed with an order from a judge made a midnight flight to Medford and ordered the Water resources board to re-open the river for irrigation. They won!

So you see; we are definitely not impressed with all the reassurances and glib guarantees.

Respectfully;
Florence Spady
P. O. Box 21
Falls City, Oregon.

P. S. I have use and access to the Work Plan booklet.

Received 12/17/74
WAC

Rt. 2, Box 280
Dallas, Oregon 97338

Dec. 14, 1974

Soil Conservation Service
1218 SW Washington
Portland, Ore. 97205

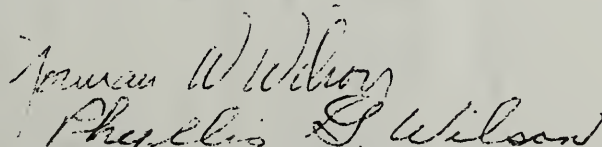
Dear Sir

As taxpayers of Polk County, we want to clearly establish our opposition to the proposed Little Luckimute Watershed Project (Teal Creek Project). This project was once rejected by the citizens of Polk County in an open election because of mis-representation and vague answers when specific questions relating to cost, taxes, operation, etc., were not forthcoming.

The burden to the taxpayers of Polk County is tremendous based on an old estimate that has not been updated. Several vital areas relating to the timber resources of Polk County are being ignored or played down. The fire hazard to this resource is terrific. At the very times when the public would presumably use this facility the fire danger is the greatest. Presently the woods are closed to all travel except by permit when the east winds blow in late July-August and early September. If a fire were to start in the area during this period it would be carried as though in a funnel into the total timber area of Polk and Lincoln counties.

In our estimation this is a poorly planned, ill conceived, unnecessary project smacking strongly of special interest groups exerting undue influence.

Sincerely


Norman W. & Phyllis G. Wilson

APPENDIX D

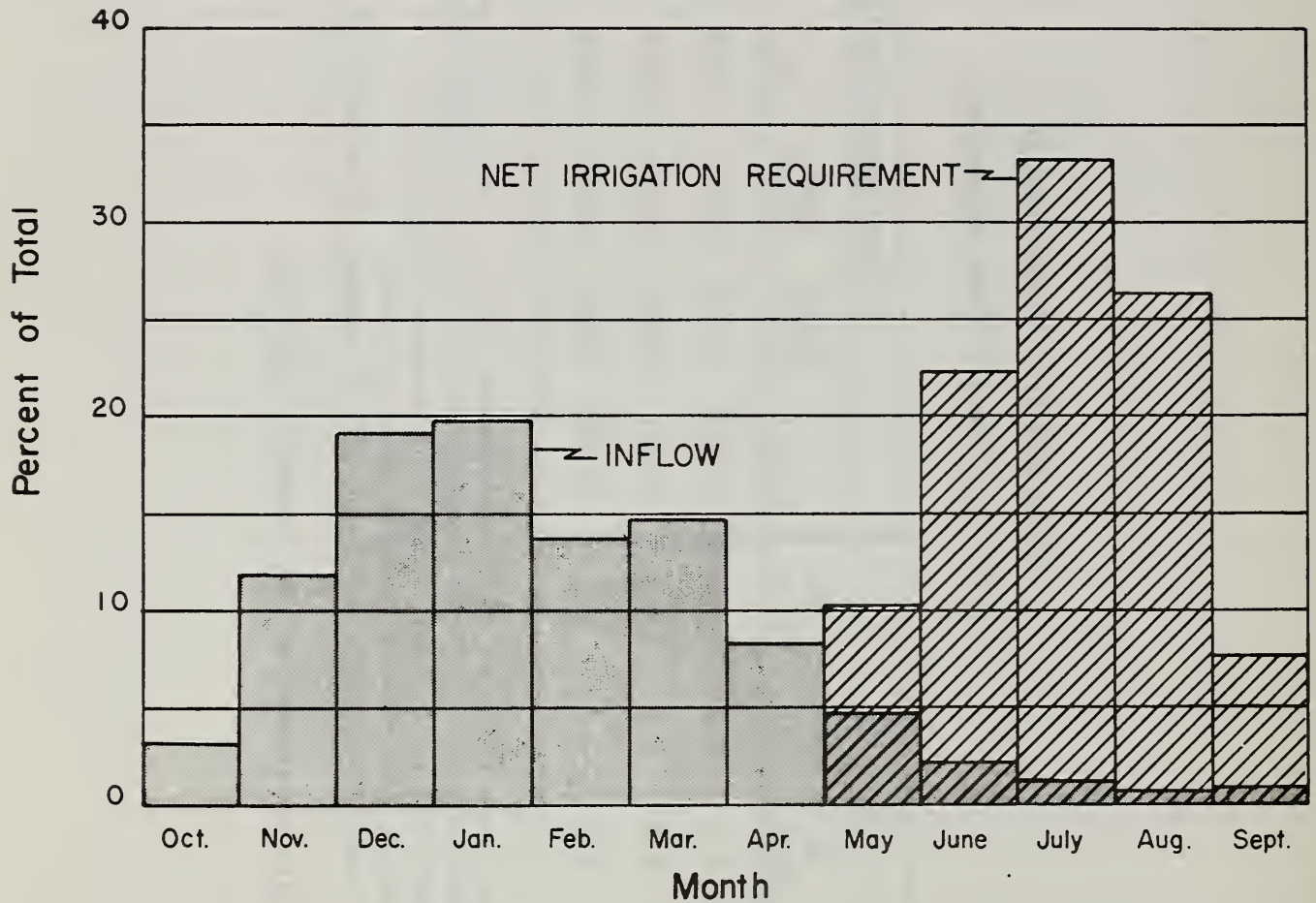
WATER QUALITY INFORMATION 1/ Little Luckiamute River Watershed

Sample Site	Constituents						Constituents in Tons/Day							
	Q cfs	ph	T ^o C	D0 mg/L	BOD mg/L	MPN 100 ml	Alkali	Total Solid	Susp. Solid	SO ₄	NH ₃ -N	NO ₃ -N	PO ₄	Cl ⁻
1 <u>2/</u>	8	6.9	18.5	9.3	0.2	60	0.324	1.188	0.011	0.054	0.001	Trace	Trace	0.095
3 <u>3/</u>	1.5	6.9	20.5	8.2	0.2	620	0.081	0.251	0.010	0.007	Trace	Trace	Trace	0.018
4 <u>4/</u>	9.5	7.3	21.0	8.5	0.6	230	0.693	1.924	0.103	0.085	0.002	Trace	Trace	0.159

- 1/ A series of water samples were taken at different stream flows. This tabulation gives test results for sample taken at a low flow period when most of the possible water quality problems should be most evident.
- 2/ Sample Site #1 - Upstream from Fall City, above most sources of pollution.
- 3/ Sample Site #3 - Immediately upstream of Dam site on Teal Creek.
- 4/ Sample Site #4 - Little Luckiamute River at lower end of stream, downstream of most pollution sources.

Tests made by Oregon State Department of Environmental Quality.




Figure 1
LITTLE LUCKIAMUTE RIVER WATERSHED
AVERAGE ANNUAL RUNOFF AT
TEAL CREEK DAM SITE AND
NET IRRIGATION REQUIREMENT





LOCATION MAP

LEGEND

-  Upland hill an mauntain soils. Used primarily for caniferaus farests. Typical series - HEMBRE & PEAVINE.
-  Faathill soils. Used primarily for waadland, pasture, and same field craps. Typical series - JORY, STEIWER, & WILLAKENZIE.
-  Battamland and terrace soils. Used primarily for pasture, hay, specialty, and raw craps. Typical series - CHEHALIS, MCBEE, & WAPATO.

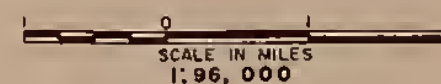
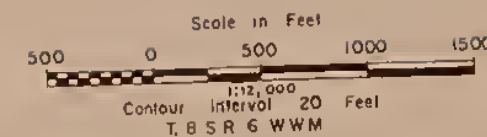


FIGURE 2
WORK PLAN
SOILS AND LAND USE MAP
LITTLE LUCKIAMUTE RIVER WATERSHED
POLK COUNTY, OREGON
PRELIMINARY PLANS
U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
Prepared by M. J. Date 2/70 by T. N. 21477

2660 Feet to Diversion from
Little Luckiamute River



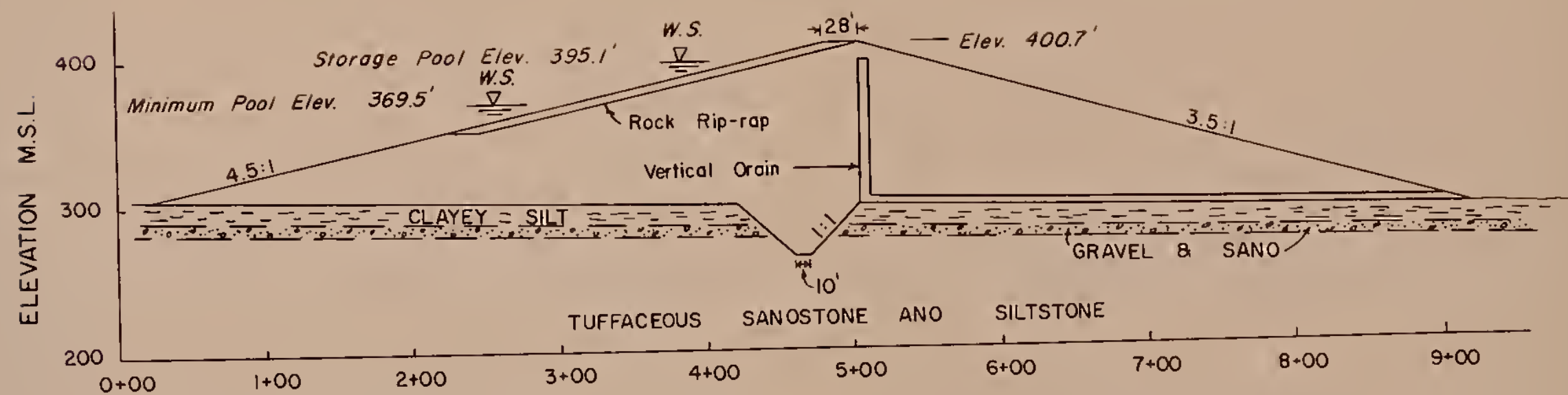
Top of Dam Elev = 4007' M.S.L.
Maximum Water Surface Elev = 3991' M.S.L.
Storage Pool Elev = 3951' M.S.L.
Recreation Pool Elev = 3695' M.S.L.

- LEGEND**
- Recreation Pool
 - Storage Pool
 - Pumping Plant & Fish Facility
 - Pipe Drain & Irrigation Outlet
 - Rest Rooms
 - Bath House
 - Diversion Canal
 - Road Relocation & or Park Road
 - Regulating Reservoir

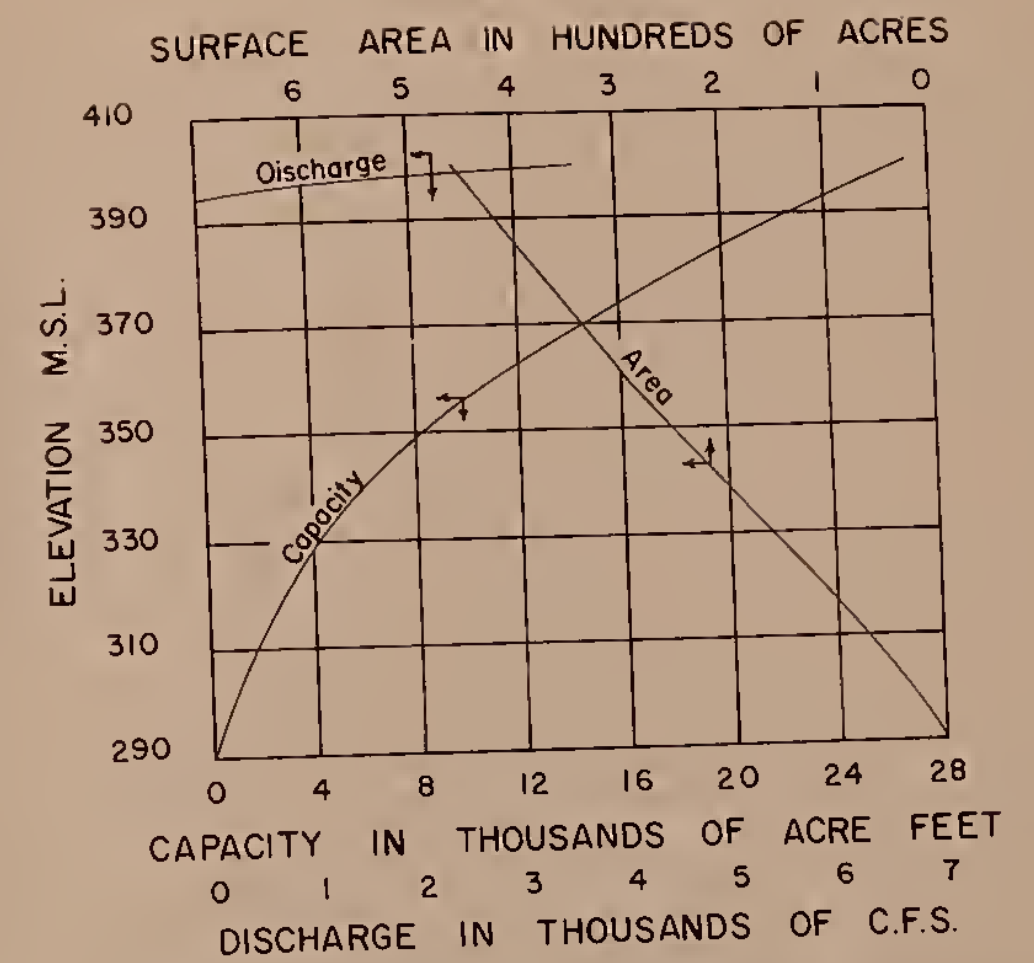
FIGURE 3
WORK PLAN
**TEAL CREEK RESERVOIR
AND RECREATION DEVELOPMENT**
LITTLE LUCKIAMUTE RIVER WATERSHED
POLK COUNTY, OREGON
PRELIMINARY PLANS

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

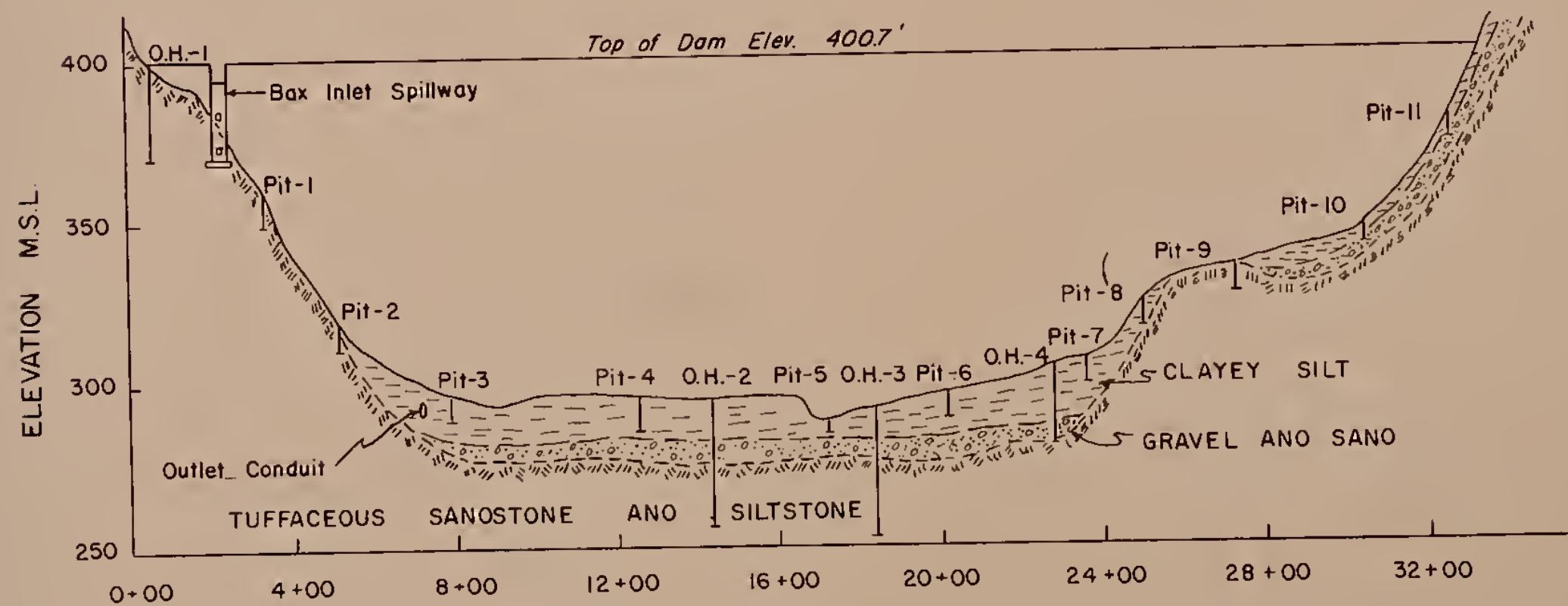
Prepared by WMC:gsb:ism Date Mar. 1970 Orig. No. M7-E-21479-N
Revised Oct 1970



TYPICAL SECTION OF HOMOGENEOUS FILL



AREA, CAPACITY, DISCHARGE CURVES



PROFILE OF DAM

FIGURE 4
WORK PLAN
TEAL CREEK DAM
AND GEOLOGY
LITTLE LUCKIAMUTE RIVER WATERSHED
POLK COUNTY, OREGON







PRELIMINARY PLANS
U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

Prepared by KMC Date Feb. '70 Orwg. No. 7-N-21502

FIGURE 5
 WORK PLAN
**IRRIGATION WATER
 DISTRIBUTION SYSTEM**
 LITTLE LUCKIAMUTE RIVER WATERSHED
 POLK COUNTY, OREGON
 PRELIMINARY PLANS
 U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
 Date Feb. 70 Drwg. No. M7-N-21468



LEGEND

-  Multiple Purpose Reservoir
-  Irrigation Pipelines
-  Recreation Area
-  Diversion System
-  Pumping Plants
-  Regulating Reservoir

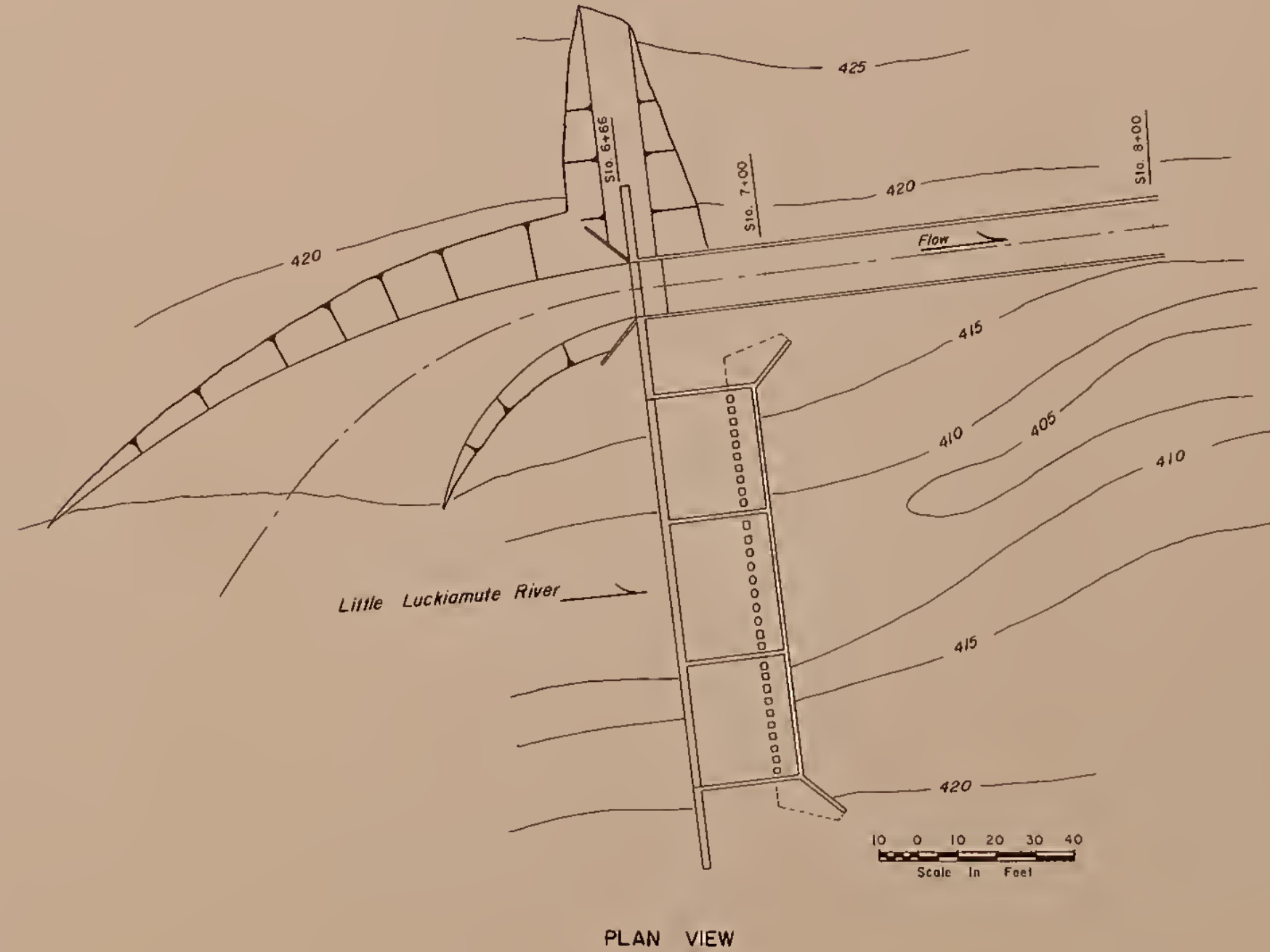
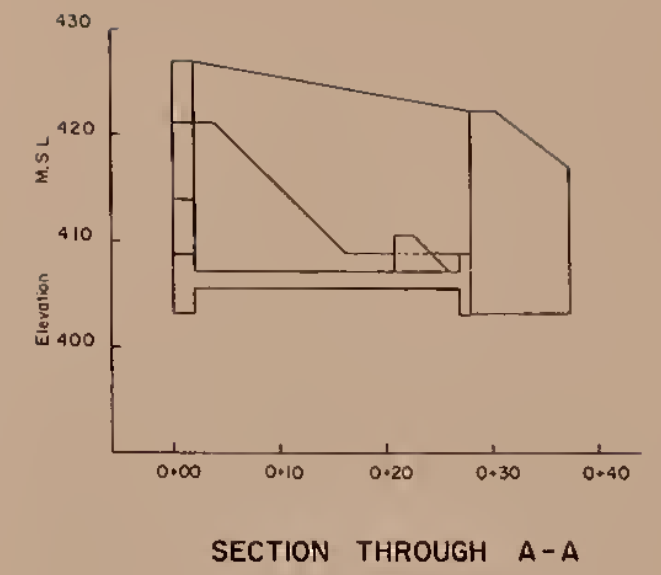
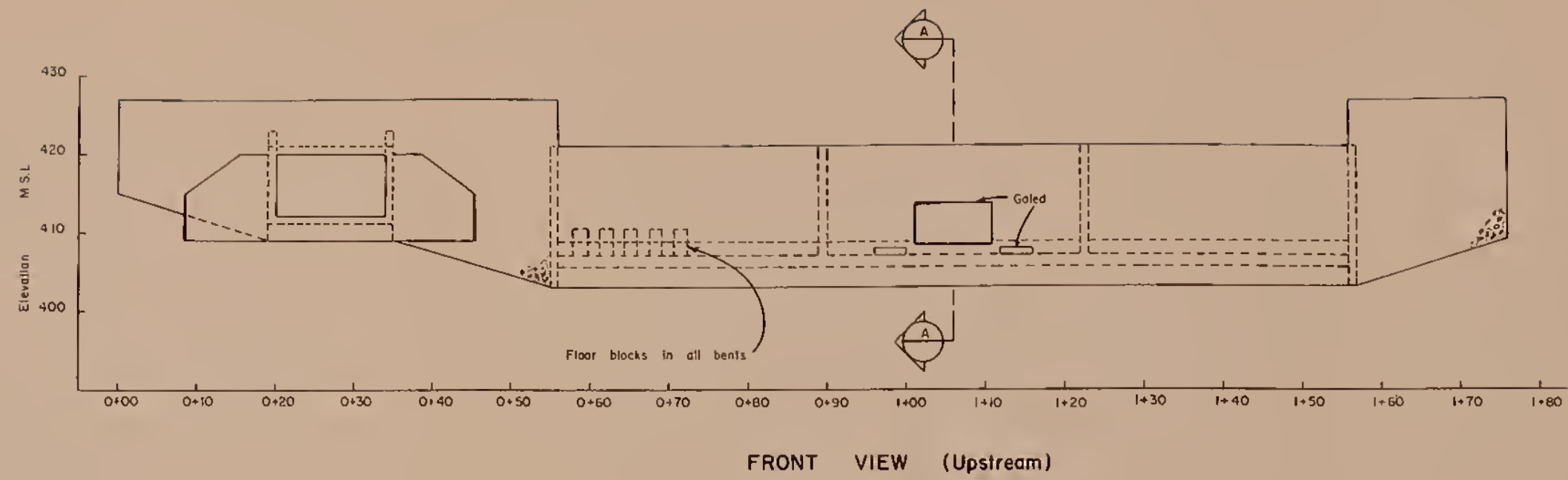


FIGURE 6
WORK PLAN
LITTLE LUCKIAMUTE RIVER
DIVERSION SYSTEM
LITTLE LUCKIAMUTE RIVER WATERSHED
POLK COUNTY, OREGON
PRELIMINARY PLANS
U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
Prepared by cal-jde Date March 1970 Draw. No. M7-E-21545-N



